JUST SHIFT

# Sustainable Steel Scoreboard 2026 - Methodology


1. Overview 2
2. Scoreboard Design and Structure 2
    2.1. Exclusions and future developments 4
3. Indicator Development 4
4. Updates and Amendments for the 2026 Edition 5
5. Points Deductions 6
6. Analysis of Company Reporting 7
7. Climate and Environment 7
    7.1. Fossil-Free and Environmentally Sustainable Supply Chains: Background 7
    7.2. Fossil-Free and Environmentally Sustainable Supply Chains: Area of Focus 8
    7.3. Themes: Background, Overview of Indicators, and Scoring Methodology 9
        7.3.1. Fossil-free and Environmentally Sustainable Supply Chains (General) 9
        7.3.2. Fossil-free and Environmentally Sustainable Steel 9
8. Company Selection 12
    Appendix 1: Full list of indicators and score attributions 15
    Appendix 2: Definitions of lower-emission and fossil-free steel 22

# 1. Overview

The Sustainable Steel Scoreboard aims to assess the steel supply chains of major companies operating in the Nordic countries. Steel production accounts for more than 8% of global greenhouse gas emissions, and steel demand is expected to rise by 30% by 2050[1]. The decarbonisation of steel manufacturing is thus crucial for limiting global warming to 1.5°C.

Unlocking demand is central to incentivising investment in and the production of near-zero-emission, environmentally sustainable steel at scale. Companies can do this by influencing their supply chain through supplier engagement, procurement policies and practices, and product and service design. In addition to supply chain levers, companies need to report on the environmental impacts of their supply chains, set ambitious and science-based targets, and publish progress towards those targets.

Scope 3 emissions often account for the largest share of companies' greenhouse gas (GHG) inventories, but companies tend to focus on their own operations when implementing their climate plans. However, it is crucial to reduce GHG and toxic emissions throughout the supply chain while also reducing harmful impacts on human health, biodiversity, resource depletion, and ecosystem resilience. In addition, a sustainable supply chain ensures justice for Indigenous people, workers, and local and conflict-affected communities. The latter aspects of sustainability, namely the social pillar, are, however, outside the scope of this analysis.

This scoreboard assesses companies' progress towards a fossil-free and environmentally sustainable steel supply chain. It also analyses the general environmental and climate performance of supply chains to provide a baseline score for comparison.

The original methodology for the first and second editions of the Scoreboard was developed by Pensions & Investment Research Consultants Ltd (PIRC), Europe's largest independent corporate governance and shareholder advisory consultancy. PIRC developed the methodology and indicators at the request of the Lead the Charge network for assessing the sustainability of electric vehicle supply chains in its Leaderboard. The third and fourth editions of the Leaderboard were refined by Gabriela Quijano and Bowen Gu, independent consultants with expertise in ESG, sustainability, and business and human rights. Just Shift has kindly been granted permission to use the methodology, and we have adapted it to assess the environmental sustainability of a multi-sector selection of Nordic steel-procuring companies.

# 2. Scoreboard Design and Structure

The scoreboard is presented in three parts:

[1] Net-Zero Industry Tracker 2022 Edition | Weforum

1. A summary scoreboard accompanied by company-specific scorecards with percentage scores against key themes to be published on the website and used as a tool by a wide range of stakeholders.
2. A downloadable sheet with the full set of indicators and a more detailed scoring assessment for partners and consumers seeking more information about how scores were derived.
3. A comparative analysis of company performance in the form of a downloadable written report.

The scoreboard is divided into the following sections:

Fossil-free and Environmentally Sustainable supply chains (climate and environment)

- Fossil–Free and Environmentally Sustainable Supply Chains (General)
- Fossil-free and Environmentally Sustainable Steel

Note: The “General” indicators measure commonalities across the steel indicator theme by evaluating overall policies and practices related to supply chain decarbonization and sustainability, providing a baseline score.

The grouping of the indicators under the Climate and Environment themes is derived from the SBTi report *Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management,* namely:

- Disclosure
- Target setting and progress
- Use of supply chain levers

Note: Although the SBTi report focuses exclusively on GHG emissions, its approach to achieving change in companies' supply chains is relevant to other environmental impacts as well. For this reason, we are adopting their structure to include “other significant air emissions”, water management, biodiversity, and resource depletion, among others.

The full set of indicators is provided in Appendix 1.

As shown in the table below, scoring has been weighted towards “implementation” (supply chain levers) indicators over "policy”, “commitment” (target setting & progress), and “disclosure” indicators.

| **Indicator category** | **Normalized weighting** | **% of total points for subsection** |
|---|---|---|
| **Fossil-free and environmentally sustainable supply chains** | | |
| Disclosure | 1.0 | 22.22% |
| Target setting & progress | 1.5 | 33.33% |
| Supply chain levers | 2.0 | 44.44% |
| Note: Total scores across both categories were taken as an average of the two percentages scored for each one | | |

## 2.1. Exclusions and future developments

The scoreboard is in its fourth year. While the structure and methodology remain consistent with previous years, allowing assessment of year-on-year progress, there have been some important additions and amendments, explained in section 4 of this document.

The scope of the scoreboard will continue to expand in future iterations to ensure it remains aligned with and up to date on emerging supply chain issues and relevant international standards, frameworks, and best practices. Indicators will also be further refined to deepen understanding of company practices in key areas and better differentiate between top performers and their peers.

The following issue areas are being explored as additions and/or refinements for future editions of the Sustainable Steel Scoreboard:

- Collecting product-level GHG and environmental data from suppliers.
- Conducting environmental due diligence for the steel/iron supply chains.
- Incentives and requirements for existing steel suppliers, including key component suppliers, to accelerate GHG emissions reductions.
- Advancing steel decarbonization across multiple production geographies.
- More granular and specific information about the results of supply chain mapping efforts, going beyond the countries of origin of raw materials, to also include major or critical suppliers and their location, as well as mine sites.

These additions and amendments seek to encourage companies to align their policies and procedures with international best practices and support their statements with practical evidence.

All in all, the additions and amendments will allow for a deeper understanding of companies' practical efforts to operationalise stated policies and commitments. This will also help companies demonstrate the extent and effectiveness of their efforts to reduce emissions and protect the environment in their supply chains.

In addition, Just Shift is considering including the theme *Respect for human rights,* with subsections on responsible sourcing of transition minerals, Indigenous Peoples' rights and Free Prior and Informed Consent (FPIC), as well as respect for workers' rights, in future editions of the Sustainable Steel Scoreboard.

# 3. Indicator Development

When originally designing the scoreboard methodology, PIRC reviewed existing benchmarking initiatives, reporting standards, and best-practice supply chain initiatives to develop the indicators.

Current legislative requirements in the European Union and the United States were also reviewed.

Where possible, climate indicators were aligned with advice from:

- Science Based Targets Initiative (SBTi)
- Task Force on Climate-Related Financial Disclosures (TCFD)
- Carbon Disclosure Project (CDP)
- International Energy Agency (IEA)
- Global Reporting Initiative (GRI)
- Industry-specific indicators or targets, as discussed below.

Environmental indicators were aligned with the following:

- Global Reporting Initiative's Sustainability Reporting Standards
- CEO Water Mandate
- CDP Water Survey
- EU Taxonomy
- UK Government's Environmental Reporting Guidelines[2]
- Accountability Framework
- Science-Based Target Network (SBTN)
- UN's High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities
- IFC Guidance Notes

# 4. Updates and Amendments for the 2026 Edition

This is the fourth iteration of the Scoreboard. To improve and strengthen the Scoreboard while ensuring consistency across years, a small number of additional indicators and amendments or expansions to existing indicators have been made. These changes are outlined throughout the rest of the methodology document, but for ease of reference, are brought together here. For an exhaustive record of additions and amendments in the 2026 edition, please refer to the text highlighted in red within Appendix 1.

fossil-free and environmentally sustainable supply chains:

- Indicators requiring companies to disclose supply chain data (for example, water usage by suppliers; quantities of low-carbon or recycled steel used across the company's annual production cycle) now allow for partial points for companies that disclose such data for part of their supply chain (e.g., for specific product lines and/or production locations). Previously, this was only possible for some indicators.

- The indicator for setting science-based Scope 3 emissions reduction targets has been modified for greater clarity and to ensure alignment with current SBTi verification requirements.

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850130/Env-reporting-guidance_inc_SECR_31March.pdf

- New qualitative and quantitative definitions have been developed for lower-emission steel and fossil-free steel, which are applied across the indicators in the steel section. These definitions have been aligned with existing international standards and benchmarks for lower-emission / fossil-free steel, and can be found in Appendix 2.
- Decarbonization target-setting indicators in the steel section have been modified to ensure consistency, with the top-scoring threshold now using 2040 as the net-zero target year, reflecting current best practice, as the best Scoreboard companies have set net-zero targets for 2040.
- The indicators for closed-loop systems in steel recycling have been updated to ensure greater precision and clarity in scoring.

# 5. Points Deductions

The disclosure companies provide in their reporting can vary year-on-year. In instances where corporate disclosure reflects a regression in transparency, ambition, or implementation, points may be deducted in line with the scoring criteria. However, if the scoring threshold for an indicator is no longer met as a result of changes in disclosure related to an initiative, process, or program of work that are, or can be presumed to still be, underway (for example, because they are explicitly mentioned or referenced), such as a company's general due diligence processes, investment in a new facility, or an offtake agreement that is still in force, the score will be maintained based on previous recent disclosures.

Points will not be maintained if new or updated information is expected on a regular or year-on-year basis, such as the results of annual risk assessments. This is in line with international reporting frameworks, guidance, and legislation, which expect or require disclosure of up-to-date information to enable an understanding of a company's performance over the reporting period.[3]

# 6. Analysis of Company Reporting

Companies have been scored primarily on publicly available official policies and reporting that have received board- or CEO-level sign-off. From the third edition onwards,

[3] See, e.g., the UN Guiding Principles Reporting Framework (in particular, Questions B1, C2.2, C2.3, C6.4, C6.5, each requiring fresh information from within each reporting period), https://www.ungpreporting.org/framework-guidance/reporting-principles/ and the EU's Corporate Sustainability Reporting Directive (requiring a description of principal risks each reporting cycle) https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ%3AL%3A2022%3A322%3ATOC&uri=uriserv%3AOJ.L_.2022.322.01.0015.01.ENG ; See also Principle 21 and Commentary, UNGPs, and the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct, Disclosure Chapter, p. 21-24.

information from companies' websites can also be used, provided the companies' reports expressly refer to them and provide the relevant link and/or heading, such as relevant company policies. An exception to this rule is membership in various initiatives, such as SteelZero and the First Movers Coalition, which we might have double-checked on the respective initiatives' websites.

Company documents reviewed included (at a minimum):

- Annual Reports
- Sustainability Statements/Reports
- Supplier Codes of Conduct

The cut-off date for information to be included in our analysis was 31st of March 2026; exceptions were made for annual reports (not policies) published after this date. Press releases and similar announcements do not qualify as official board-approved reporting.

The companies evaluated were given an opportunity to comment on the analysis of their reporting and to provide additional information to challenge our assessment of their policies and/or practices. However, this information was used only to revise a company's score if it was in the public domain by the above cut-off date and qualified as a source under the above criteria.

# 7. Climate and Environment

## 7.1. Fossil-free and Environmentally Sustainable Supply Chains: Background

Steel-procuring companies must decarbonise and reduce toxic pollution and environmental impacts across their entire supply chain, from extraction through final production to recycling and reuse.

Recognising that Scope 3 emissions often represent the largest portion of companies' GHG inventories, SBTi produced best practice guidance for downstream companies on how they can reduce indirect emissions throughout their value chain.[4] They identify a number of levers whereby buyers can influence their supply chain, and we have identified the following as relevant to this scoreboard:

- Supplier Engagement
- Procurement Policies and Choices
- Product and Service Design

These levers are also very relevant to how companies can reduce the broader environmental footprint of their supply chain, including improvements in water

[4] https://sciencebasedtargets.org/resources/files/SBT_Value_Chain_Report-1.pdf

management, reductions in toxic pollutants, and reductions in biodiversity and land-use impacts.

## 7.2. Fossil-Free and Environmentally Sustainable Supply Chains: Area of Focus

Research has identified steel manufacturing as an area with significant environmental and/or climate impacts, which is why we have chosen it as the focus.

Building on SBTi value chain guidance, we have grouped indicators into three groups:

- Disclosure of GHG emissions, "other significant air emissions", and water management.[5] Note: this establishes the status quo of a company's emissions. This is not comparable between companies due to differences in how each company structures its operations and supply chain, and how they are disclosed or not.[6]
- Target setting and progress towards fossil-free and environmentally sustainable supply chains: This measures a company's ambition and progress towards that ambition.
- Use of supply chain levers to achieve fossil-free and environmentally sustainable supply chains: this measures the policies and practices that companies have put in place to achieve that ambition, for example, through tendering practices and supplier agreements/engagement.

In measuring company ambition and progress, we recognise that it is not enough to simply decarbonise mineral and metal production. A fossil-free and environmentally sustainable supply chain would also need to reduce the use of primary materials to reduce biodiversity and land-use impacts (in addition to the impacts noted above). This is measured through attention to:

- Recycling and increased use of secondary materials, in order to create more closed-loop supply chains and reduce continual extraction.

To further our assessment of biodiversity and land-use impacts, new indicators were developed for the 2025 edition of the scoreboard on deforestation and biodiversity conservation. The additional indicators have been developed in line with other indicators that focus on disclosures, targets or commitments, and the use of supply chain levers.

[5] The definition of "other significant air emissions" has been taken from the GRI 305: Emissions Standard.
[6] For example: some auto manufactures will have their own battery cell manufacturing plants, while others won't.

## 7.3. Themes: Background, Overview of Indicators, and Scoring Methodology

The following is a high-level discussion of decisions underpinning the indicators and scoring methodology for each focus area or theme.

### 7.3.1. Fossil-free and Environmentally Sustainable Supply Chains (General)

These are baseline indicators that apply across all supply chains. They evaluate companies on their disclosure of aggregate data and targets for emissions (GHG and other significant air emissions), water management, and deforestation in their supply chains. This section also evaluates companies' actions to incentivise and/or require suppliers to improve their performance on reducing their climate and environmental impacts, for example, through their tender and contracting processes and/or supply chain management practices for existing suppliers. Additional supply chain levers are evaluated in the steel supply chain subsection, as the most relevant actions for focused engagement may differ substantially between the general level and the steel supply chain.

### 7.3.2. Fossil-free and Environmentally Sustainable Steel

The bulk of GHG emissions associated with steel production occur during smelting. As such, transitioning from coal-based steel production using blast furnaces and decarbonising the electricity used in the smelting process are critical to creating sustainable steel supply chains for steel-intensive industries. In this regard, these industries have an important role to play in unlocking investment in new or upgraded steel facilities that utilise innovative technologies to move the industry towards fossil-free steel manufacturing.

The indicators in this subsection of the Scoreboard differentiate between two types of decarbonised steel: 1) **fossil-free steel** produced with breakthrough technologies with the potential to eliminate fossil-fuel usage from the production process but are not yet operating at full commercial scale (such as green hydrogen DRI combined with renewable energy-powered EAF, and 2) **lower-emission steel** produced using current steelmaking technologies (e.g. using renewable electricity to power electric arc furnaces) to achieve a lower carbon emissions intensity than blast furnace steel. Some indicators in this subsection allow companies to score points by disclosing progress in utilising either type of steel, whilst others (for example, the indicators on target-setting or offtake agreements) require companies to disclose actions taken on fossil-free steel specifically to achieve the maximum number of points. The qualitative and quantitative definitions of fossil-free and lower-emission steel used by the Scoreboard are provided in Appendix 2.

Indicators in this subsection have been structured around the demand signal framework presented in Mission Possible Partnership's Steeling Demand report[7], which illustrates how demand signals from major steel buyers to steel manufacturers can help unlock investment decisions and bring to market the next generation of breakthrough technologies needed for primary steel to become truly net-zero.

This report puts forward three types of demand signals that can serve this purpose:

- A direct offtake agreement, which is "an actual agreement between a steel buyer and a specific steel supplier, intended to give the steel company the certainty needed to invest in a breakthrough production route and the steel buyer the assurance of access to a particular volume of low-$CO_2$ steel meeting its specifications." Such agreements can take the form of a bilateral offtake (or advance purchase) agreement or a direct investment in a company or facility. This type of demand signal is evaluated in indicator 2.3.3.
- A future purchase commitment, which is "a commitment that is not directed to any specific supplier, but instead indicates a willingness to buy low-$CO_2$ steel, to the supply market as a whole." This type of demand signal is evaluated in the target-setting indicator 2.2.1.
- And finally, indirect demand signals, which "can be sent by a much broader pool of organisations that operate across complex value chains to indicate a willingness to decarbonise their supply chains and encourage their suppliers to engage in green steel demand." These kinds of demand signals are typically mobilised through buyers' groups and other multi-stakeholder initiatives, such as SteelZero, First Movers' Coalition, and ResponsibleSteel, and they are evaluated in indicators 2.3.1. and 2.3.2. Companies can score additional points by joining all three of these initiatives, which are considered complementary as they target different elements of steel decarbonisation.[8]

Additional requirements have been integrated into the indicator on direct offtake agreements to differentiate between advance purchase agreements that are more effective in achieving the purpose of providing a steel company with the certainty needed to invest in a breakthrough production route,[9] namely:

- Giving preference to binding contracts over non-binding memorandums of understanding.

---

[7] https://www.energy-transitions.org/publications/steeling-demand/#download-form

[8] SteelZero (2023), *How demand signals work together to decarbonise the steel market: Overview of commonalities and distinctions between First Movers Coalition, SteelZero and the IDDI-Green Procurement Pledge*

[9] https://www.latitudemedia.com/news/ev-makers-have-the-chance-to-catalyze-the-clean-steel-and-aluminum-markets
https://www.latitudemedia.com/news/opinion-green-steel-evs

- Giving preference to contracts for which quantities to be purchased and timelines are publicly disclosed, to be able to evaluate and compare the levels of ambition and commitment between companies.
- Giving preference to purchase agreements that are technology-forcing, i.e., used to support investments in breakthrough technologies needed for the steel industry to move towards fossil-free steel production. These technologies have been detailed by the IEA[10] and Mission Possible Partnership[11] and include green hydrogen DRI and iron ore electrolysis. Post-consumer scrap-based EAF production routes powered by renewable energy are also considered here. However, CCUS (Carbon Capture, Utilisation and Storage) is not considered for scoring, as it is not a technology that can support the industry's transition away from fossil fuels.

To enable stakeholders to evaluate companies' actual progress in decarbonising steel supply chains, indicators are also included for disclosing disaggregated emissions from the company's steel supply chain and the quantity of low-emission steel currently used in the company's production cycle.

Implementing effective methods for recovering and recycling scrap steel is an important consideration in the decarbonisation of steel supply chains. Increasing the amount of secondary steel relative to primary steel used in manufacturing processes reduces the embodied carbon of end products and the demand for primary resources (i.e., virgin iron ore).

The IEA Guidance for Heavy Industry sets a goal for scrap as a share of input in steel production at 54% by 2030[12]. As such, the scoreboard measures companies' target setting with regard to recycling. Additionally, the scoreboard assesses the extent to which companies are integrating improved steel recyclability into their design and manufacturing processes. Finally, there is additional emphasis on the approach companies take to closed-loop processes for recycling and recovery of steel. A truly closed-loop process should include both pre- and post-consumer scrap. Scoreboard indicators on this issue are therefore weighted towards recycling and recovery processes for steel, including considerations for post-consumer scrap. Companies will still be credited for closed-loop processes utilising recycling scrap from the manufacturing process, albeit to a lesser extent.

Finally, it is noted that steel production - from iron ore mining through to steel manufacturing - can also cause negative environmental impacts beyond producing significant quantities of greenhouse gas emissions.[13] Companies' use of ResponsibleSteel, a highly regarded multi-stakeholder assurance scheme for the steel industry that includes

[10] https://www.iea.org/energy-system/industry/steel
[11] https://www.energy-transitions.org/publications/making-net-zero-steel-possible/
[12] https://iea.blob.core.windows.net/assets/c4d96342-f626-4aea-8dac-df1d1e567135/AchievingNetZeroHeavyIndustrySectorsinG7Members.pdf
[13] https://edlc.org/wp-content/uploads/2024/04/The-Real-Cost-of-Steel.pdf

a range of performance measures on environmental impacts, is included to assess their efforts to reduce these impacts in their supply chains. Future editions of the Scoreboard may include more detailed requirements regarding due diligence measures to identify, prevent, mitigate, and account for these broader environmental impacts.

# 8. Company Selection

Just Shift used a mixed-methods approach to select companies and identify the players with the most potential to drive change in the Nordic region. A market analysis of the Nordic steel market was conducted during the summer and autumn of 2025 to identify these companies.

Firstly, the following sectors of the Nasdaq Nordic Large Cap List were screened: consumer discretionary, industrials, energy, and utilities, and companies most likely to use steel in their production processes were selected. Norwegian companies are not listed on Nasdaq, as the Oslo stock exchange is managed by Euronext. From the Oslo Stock Exchange's Large Cap list, companies were selected across the consumer discretionary, energy, and industrials sectors. The utility sector has no large-cap companies on the Oslo Stock Exchange.

Secondly, we searched the listed companies' annual and sustainability reports for the financial year of 2024 using the search terms "steel"/"teräs"/"stål" to assess how central steel is to the companies, and removed some of them based on this superficial analysis. We only chose companies whose end products contain steel.

Thirdly, we looked up the listed companies' number of employees, revenues for the financial year of 2024, and the geographical scope of their operations to assess their size and use it as a proxy for their power position. In addition, we looked up whether the companies have SBTi-validated climate targets and whether they report some level of cooperation with progressive steelmakers to procure lower-emission or fossil-free steel. We also looked up whether the companies are members of SteelZero, ResponsibleSteel, Climate Leadership Coalition, or the First Movers' Coalition. These latter criteria were used as proxies for the companies' alignment with Just Shift's advocacy position, which, in broad terms, can be interpreted as supporting the Paris Climate Agreement's 1.5°C goal.

We also added Oulu and Lund universities, which we know, based on earlier discussions, are conducting research regarding steel decarbonisation and have relationships with some of the companies we are analysing, as well as with Nordic steelmakers. We found in our online searches that some of the mapped companies, on both the supply and demand sides, have also participated in research programs with Luleå University of Technology.

Finally, we plotted the demand-side companies in a power-interest grid on a Miro board to form a holistic picture of where the companies are positioned along the continuums of level of influence or power position (on the vertical axis) and alignment with Just Shift's

advocacy position (on the horizontal axis), and added steelmakers on the map as well. We chose the largest European steelmakers as well as the largest steelmakers globally for this analysis. Stegra is an exception to the other steelmakers, which are well-established in the market. It is a Swedish steelmaker in the process of building an integrated hydrogen-direct-reduced iron and electric arc furnace steel facility in Sweden, and, highly relevant to our analysis, has already secured off-take agreements with numerous demand-side companies before the facility is up and running.

After the mapping exercise was completed, we drew lines between the companies and the various climate initiatives they participate in (SBTi[14], ResponsibleSteel[15], SteelZero[16], Climate Leadership Coalition (CLC[17]), and First Movers Coalition (FMC[18])), as well as research and development cooperations with universities (Oulu[19], Lund[20] and Luleå University of Technology[21]) that we became aware of during the screening of companies' websites. We also added lines between progressive steelmakers and demand-side companies where we had found some level of cooperation, direct offtake agreements, or investments during the searches described above. This step was conducted through a simple, systematic Google search using the steelmaker's name and the demand-side company's name with the search operator AND. In addition, searches were conducted on demand-side companies' corporate websites using the steelmakers' names as search terms, and vice versa.

After numerous rounds of iterations based on our assessment of how easily influenced the companies might be, their size and sector, and climate commitments, we were left with 15 Nordic steel-procuring companies. Seven of them are Swedish, four Finnish, three Danish, and one Norwegian. The number of Finnish companies is large compared to the size of the country's economy, but we justify this by consistency, as we have earlier conducted the Sustainable Steel Scoreboard analysis on Finnish companies. We were, nevertheless, forced to remove five of the companies that had been included in the study earlier due to limited analytical capacity.

Two of the chosen companies are in the automotive industry; one is in shipping/logistics; one is a consumer brand/whiteware manufacturer; two are in the renewable energy industry; three are in construction; and six are in machinery. Most of the above-mentioned sectors, except for machinery, are assessed by the think-tank Agora Industry among the most potential sectors for lead market generation for fossil-free and lower-emission steel.[22] The dominance of the machinery sector among the selected companies is due to

[14] https://sciencebasedtargets.org/
[15] https://www.responsiblesteel.org/
[16] https://www.theclimategroup.org/steelzero
[17] https://clc.fi/members/
[18] https://initiatives.weforum.org/first-movers-coalition/community
[19] https://www.oulu.fi/en/news/future-steel-research-and-expertise-strengthened-ssabs-donation
[20] https://www.hybritdevelopment.se/en/research-project/collaborative-research/
[21] https://www.lindholmen.se/en/mission-0-house
[22] Creating markets for climate-friendly basic materials

its size in both Finland and Sweden and to its dominance by large-cap, global companies that use considerable volumes of steel.

For the analysis to have global relevance, global companies were preferred, although some regional ones were also included due to their assessed relevance for lead market generation for lower-emission and fossil-free steel. Of the fifteen companies chosen, 12 operate globally and three regionally. The latter are Lindab, which operates mainly in Europe; Veidekke, which operates at the Nordic level; and YIT, which operates in Finland, the Baltics, and CEE countries.

The companies analysed in the Sustainable Steel Scoreboard report in 2026 are, in order of revenue from largest to smallest:

- A.P. Møller-Mærsk
- Volvo
- Scania
- Vestas Wind Systems
- Skanska
- Electrolux
- KONE
- Sandvik
- Ørsted
- SKF
- Valmet
- Metso Oyj
- Veidekke ASA
- YIT
- Lindab

## Appendix 1: Full list of indicators

### Fossil-Free and Environmentally Sustainable Supply Chain Indicators

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| **1. Fossil-Fuel-Free and Environmentally Sustainable Supply Chains (General)** | **1.1. Disclosure of emissions, water and deforestation management** | 1.1.1. The company discloses total scope 3 GHG emissions due to purchased goods and services. | 2 | The following scores are absolute, not cumulative:<br>**100%:** The company discloses scope 3 GHG emissions due to purchased goods and services.<br><br>**25%:** The company includes scope 3 GHG emissions including purchased goods and services in overall disclosure, but does not disaggregate.<br><br>Note: the company may achieve additional points under each of the supply chain areas below, if they provide disaggregated emissions against each supply chain. |
| | | 1.1.2. The company discloses "significant emissions" in its supply chain. | 1 | Based on GRI 305-7, significant emissions include:<br>i. NOx<br>ii. SOx<br>iii. Persistent organic pollutants (POP)<br>iv. Volatile organic compounds (VOC)<br>v. Hazardous air pollutants (HAP)<br>vi. Particulate matter (PM)<br>vii. Other standard categories of air emissions identified in relevant regulations<br><br>The following scores are absolute not cumulative:<br>**100%:** The company discloses significant emissions against all of the above categories by key suppliers in its supply chain. The company will need to define its key suppliers if it does not disclose this information for the whole supply chain.<br><br>**50%:** The company discloses significant emissions against some of the above categories for part of its supply chain. |

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| | | 1.1.3. The company discloses water usage by key suppliers in its supply chain. | 1 | According to GRI 303, water usage includes:<br>- water withdrawn<br>- water consumed<br>- water discharged<br><br>The following scores are absolute not cumulative:<br>**100%:** The company provides data against all of the above indicators for key suppliers in its supply chain. The company will need to define key suppliers if they do not disclose this information for their whole supply chain.<br><br>**50%:** The company provides data against some of the above indicators for part of its supply chain. |
| | **1.2. Target-setting and progress towards fossil-fuel-free and environmentally sustainable supply chains** | 1.2.1. The company has set and disclosed a scope 3 SBT target (must include reference to upstream/purchased goods & not only 'Well to Wheel') | 2 | The following scores are absolute, not cumulative:<br>**100%**: The company has disclosed verified science-based targets that include scope 3, including 2050 (or sooner) and interim year target(s), and has also disclosed a disaggregated interim target for upstream/purchased goods (scope 3 category 1)<br><br>**75%**: The company discloses verified science-based targets that include scope 3, including interim year target(s) as well as a disaggregated target for upstream/purchased goods, but does not have a 2050 (or sooner) verified target.<br><br>**50%**: The company discloses a lifecycle target that includes upstream/purchased goods, including 2050 (or sooner) and interim year target(s), and/or does not indicate if its target(s) has been verified as science-based<br><br>**25%**: The company only discloses a 2050 zero emissions target with no interim target and/or does not specify upstream/purchased goods. |
| | | 1.2.2. The company commits to having suppliers provide science-based targets for GHG emissions. | 1 | The following scores are absolute not cumulative.<br>**100%:** The company requires all its Tier 1 suppliers to set science-based targets. They also require tier 2 suppliers to set science-based targets.<br><br>**75%:** The company requires all its tier 1 suppliers to set science-based targets.<br><br>**50%: T**he company commits to having at least 70% of its key suppliers by emissions setting science-based targets within 2 years.<br><br>**25%:** The company commits to having suppliers set science-based emissions targets, but does not provide a target date, or the target date is more than 2 years away.<br><br>**0%:** Company does not have a commitment. |

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| | | 1.2.3. The company discloses the current percentage of suppliers providing science-based targets. | 1 | **25%:** The company discloses the current percentage of tier 1 suppliers providing science-based targets.<br><br>**25%:** The company discloses the current number and/or percentage of tier 2 suppliers providing science-based targets.<br><br>**25%:** Additional points for over 50% of tier 1 suppliers providing science-based targets<br><br>**25%:** Additional points for all tier 1 suppliers providing science-based targets. |
| | | 1.2.4. The company requires all significant suppliers to set water reduction targets and disclose their water usage. | 1 | **50%:** The company requires tier 1 suppliers to set water reduction targets<br><br>**50%:** The company requires tier 1 suppliers to disclose their water usage. According to GRI 303, water usage includes:<br>- water withdrawn (1/3 points)<br>- water consumed (1/3 points)<br>- water discharged (1/3 points) |
| | | 1.2.5. The company has programs in place to monitor suppliers for compliance with GHG emissions targets and other environmental impacts. | 1 | **50%:** The company has a process that includes reducing **GHGs and other environmental impacts**, and includes targets as a basis for compliance.<br>**OR**<br>**25%:** The company has a process that includes reducing GHGs and other environmental impacts, but lacks targets as a basis for compliance.<br><br>**PLUS**<br>**25%:** The company provides quantitative information on the number of suppliers audited and/or the tiers that are audited.<br><br>**25%:** The company provides qualitative case studies of how they have engaged suppliers on their targets. |

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| | | 1.2.6. The company commits to eliminate deforestation and the conversion of all natural ecosystems from their supply chains. | 1 | The following scores are absolute, not cumulative:<br>**100%:** The company has time-bound targets to eliminate deforestation and the conversion of natural ecosystems from their supply chain.<br>OR<br>**100%:** The company has time-bound targets to eliminate sourcing of high-risk commodities from areas of High Carbon Stock (HCS) and High Conservation Value (HCV).<br><br>**50%:** The company has time-bound targets to eliminate deforestation and conversion of natural ecosystems in the supply chain of at least one of its high-risk commodities.<br>OR<br>**50%:** The company has time-bound targets to eliminate sourcing from areas of High Carbon Stock (HCS) and High Conservation Value (HCV) for at least one of its high-risk commodities.<br><br>**25%:** The company has a general commitment or policy to halt deforestation and the conversion of natural ecosystems in its supply chains, which extends beyond illegal deforestation or conversion. |
| | **1.3. Use of supply chain levers to achieve fossil-fuel-free and environmentally sustainable supply chains** | 1.3.1. The company incentivises suppliers to reduce GHG and other significant air emissions. | 1 | **50%:** The company specifies that sustainability and/or ESG are included as factors for choosing a preferred supplier.<br><br>**25%:** The company specifies that GHG emissions are included in the tender and contracting process.<br><br>**25%**: The company specifies that "other significant air emissions" targets are included in the tender and contracting process.<br><br>As companies are unlikely to publish their contract information, references may be found in sustainability reports, procurement policies, etc. |

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| | | 1.3.2. The company implements incentives and control systems to improve water management by suppliers | 1 | **20%:** The company's Supplier Code of Conduct and / or Responsible Sourcing Policy includes specific requirements for suppliers with regards to water management and conservation (e.g. having in place a water management plan).<br><br>**40%:** The company has established purchase control systems to incentivize improved water management by (potential) new suppliers (e.g. water management is explicitly taken into account in the tender process and is a factor in selecting suppliers).<br><br>**40%:** The company has operationalized policies, systems and/or processes to manage risks and address impacts of water depletion/pollution by (existing) suppliers (e.g. the company discloses specific water risks it has identified as part of its supply chain risk assessment process; the company provides evidence of how they have engaged with, or suspended, noncompliant suppliers on water management, etc.). Note: generic claims (e.g. simply stating that the company assesses / manages water-related risks) are insufficient — companies must explain the specific mechanisms used and/or provide concrete examples or data to illustrate implementation. |
| | | 1.3.3. The company implements incentives and control systems to eliminate deforestation from its supply chain | 1 | **20%:** The company's Supplier Code of Conduct and / or Responsible Sourcing Policy includes specific requirements for suppliers with regards to deforestation and land conversion.<br><br>**40%:** The company has established purchase control systems to incentivize compliance on deforestation and land conversion by (potential) new suppliers (e.g. deforestation is explicitly taken into account in the tender process and is a factor in choosing a preferred supplier).<br><br>**40%:** The company has operationalized policies, systems and/or processes to manage risks and address impacts of deforestation and land conversion by existing suppliers (e.g. the company discloses specific deforestation risks it has identified as part of its supply chain risk assessment process; the company provides evidence of how they have engaged with, or suspended, noncompliant suppliers on deforestation, etc.). Note: generic claims (e.g. simply stating that the company assesses / manages deforestation risks) are insufficient — companies must explain the specific mechanisms used and/or provide concrete examples or data to illustrate implementation. |
| **2. Fossil-Fuel-Free and Environmentally Sustainable Steel** | **2.1. Disclosure of scope 3 GHG emissions due to steel supply chains** | 2.1.1. The company discloses disaggregated GHG emissions for their steel supply chains. | 1 | The following scores are absolute, not cumulative:<br>**100%:** The company discloses scope 3 GHG emissions for purchased goods and services, disaggregated for their steel supply chains<br><br>**50%:** The company discloses a Life Cycle Assessment (LCA) for at least one product or product line that includes disaggregated data on the embodied GHG emissions from the steel used in that product. |

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| | **2.2. Target setting and progress towards fossil-fuel-free and environmentally sustainable steel supply chains** | 2.2.1. The company has set targets for the use of fossil-fuel-free and environmentally sustainable steel. | 2 | The scores below are absolute, not cumulative:<br>**100%:** The company has a commitment to source 100% fossil-fuel-free steel by 2040, and has set interim targets to source at least 10% fossil-fuel-free steel AND 50% lower-emission steel by 2030.<br><br>**80%:** The company has a commitment to source 100% fossil-fuel-free steel by 2050, and has set interim targets to source at least 10% fossil-fuel-free steel AND 50% lower-emission steel by 2030.<br><br>**60%:** The company has set a target to source at least 10% fossil-fuel-free steel OR 50% lower emission steel by 2030.<br><br>**40%:** The company has set an emissions reduction target for its steel supply chain that is aligned with the IEA Net Zero Roadmap (2023 version), specifically a 27% reduction by 2030 and 90% by 2050.<br><br>**20%:** The company has a commitment to net-zero steel by 2050 and/or a 2030 steel supply chain emissions reduction target that falls short of the above-mentioned thresholds.<br><br>Note: For definitions of fossil-fuel-free steel and lower-emission steel used in this indicator and those below, as well as comparisons with definitions from other standards and schemes, please refer to the methodology document. |
| | | 2.2.2. The company publishes progress towards their target by disclosing the current percentage of fossil-fuel-free and/or lower emission steel in their annual production cycle. | 1 | The scores below are absolute, not cumulative:<br>**100%:** The company discloses the current percentage of lower-emission and/or fossil-fuel-free steel in its production cycle<br><br>**50%:** The company partially discloses the quantity of fossil-fuel-free and/or lower-emission steel used in its annual production cycle, e.g., in the form of an absolute amount instead of a percentage or only for some elements within its annual production cycle. |

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| | | 2.2.3. The company has a target for the use of recycled steel by 2030. | 2 | The scores below are absolute, not cumulative:<br>**100%: T**he company discloses a target to use at least 38% recycled steel by 2030, aligned with the IEA Net Zero Roadmap (2023 version). The target includes a specific commitment or target for increasing the use of post-consumer scrap.<br><br>**75%:** The company discloses a target to use at least 38% of recycled steel by 2030, but does not specify a target for post-consumer scrap.<br><br>**50%:** The company discloses a target for the use of recycled steel below the 38% threshold and lacks detail on scrap type. |
| | | 2.2.4. The company publishes progress towards their target by disclosing the current percentage of recycled steel used in its annual production cycle. | 1 | The scores below are absolute, not cumulative:<br>**100%:** The company discloses the percentage of recycled steel in their annual production cycle including volumes of both pre- and post-consumer steel. NB: Total recycled/scrap steel volume is sufficient if total steel volume is disclosed.<br><br>**75%:** The company discloses the percentage of recycled steel used annually.<br><br>**50%:** The company partially discloses the quantity of recycled steel used, e.g., in the form of an absolute amount instead of a percentage or only for some elements within its operations.<br><br>**25%**: The company discloses the percentage of most important materials recycled in an aggregated fashion, not disaggregated for steel, but including it. |
| | **2.3. Use of supply chain levers to achieve fossil-fuel-free and environmentally sustainable steel supply chains** | 2.3.1. The company participates in multi-stakeholder procurement initiatives to collaborate with other buyers to incentivise investment in and production of fossil-fuel-free steel at scale. | 1 | **50%:** The company is a member of SteelZero.<br><br>**50%:** The company is a member of the First Movers Coalition's sector group on steel. |

| Theme | Indicator Category | Indicators | Total Nr of Points | Score Attribution (Scores are cumulative unless otherwise specified) |
|---|---|---|---|---|
| | | 2.3.2. The company participates in multi-stakeholder standard / certification initiatives to drive investment in and production of socially and environmentally sustainable steel at scale. | 1 | **25%:** The company is a member of ResponsibleSteel.<br><br>**50%:** The company actively engages their steel suppliers regarding ResponsibleSteel certification.<br><br>**25%:** The company has disclosed purchasing agreements for ResponsibleSteel-certified steel. |
| | | 2.3.3. The company has entered into formal arrangements with suppliers to incentivise investment in and greater production of fossil-fuel-free steel. | 2 | **50%:** The company states that it has entered into a formal arrangement with at least one steel supplier to invest in and scale up production of lower-emission or fossil-fuel-free steel.<br><br>**25%:** At least one purchase agreement signed by the company with a steel supplier for the provision of lower-emission or fossil-fuel-free steel is a binding contract for which timelines and scale of supply (e.g. volume of steel to be purchased per year) are publicly disclosed.<br><br>**25%:** At least one purchase agreement signed by the company is for the provision of steel produced with breakthrough technologies for fossil-fuel-free steelmaking. |
| | | 2.3.4. The company integrates improved recyclability of steel into product design and manufacturing. | 2 | **25%:** The company discloses that it is implementing a closed-loop process for steel recycling (must include reference to post-consumer scrap).<br>**OR**<br>**10%:** The company discloses that it is implementing a closed-loop process for steel recycling (no reference to post-consumer scrap).<br><br>**PLUS**<br>**25%:** The company provides a qualitative description of the closed-loop process(es) it is implementing for steel recycling.<br><br>**25%:** The company discloses that it improves the recyclability of steel through product and/or component design.<br><br>**25%:** The company explains how it has used product and/or component design to improve the recyclability of steel (e.g. by minimizing copper contamination). |

## Appendix 2: Definitions of Lower-Emission and Fossil-Free Steel

| Scoreboard term | Qualitative description | Quantitative GHG emissions intensity threshold (tCO2e /tonne) | Analytical boundaries | Other commonly used terms | Standards/schemes that use or endorse identical or similar definitions/thresholds |
|---|---|---|---|---|---|
| **Fossil-free steel** | Either:<br>- Primary steel that is produced using breakthrough technologies that eliminate as much coal and natural gas as technically possible in the ironmaking and steelmaking processes and instead uses inputs such as green hydrogen and/or carbon-free electricity, combined with any amount of steel scrap.<br>Or:<br>100% steel scrap produced with 100% carbon-free electricity | <0.4 tCO2e/tonne (0% scrap inputs) to <0.05 tCO2e/tonne (100% scrap inputs) | "Cradle-to-crude steel" that includes direct and indirect combustion and process-related GHG emissions. | - Near-zero emissions steel<br>- Green steel<br>- Fossil-fuel-free steel<br>- Net-zero steel<br>- Near-zero steel | - IEA Near-Zero Emissions Steel<br>- ResponsibleSteel (Decarbonisation Progress Level 4)<br>- First Movers Coalition (FMC) near-zero emissions steel<br>- International Council on Clean Transportation (ICCT) - near-zero emissions steel<br>- IIGCC Steel Purchasers Framework<br>- SteelZero - net zero steel<br>- Industrial Deep Decarbonisation Initiative (IDDI) - near-zero steel<br>- Low Emission Steel Standard (slightly different thresholds) - near-zero steel |
| **Lower-emission steel** | Primary steel that is produced by eliminating as much coal as technically possible in the ironmaking and steelmaking processes and instead using technologies that are near-zero emissions already or projected to become near-zero-emission in the future (even if inputs are not fully renewable), combined with any share of steel scrap. | <2 tCO2e/tonne (0% scrap inputs) to <0.35 tCO2e/tonne (100% scrap inputs) | "Cradle-to-crude steel" that includes direct and indirect combustion and process-related GHG emissions. | - Low CO2 steel<br>- Low-carbon steel<br>- CO2-reduced steel<br>- Low-emission steel | - SteelZero - lower emission steel<br>- ResponsibleSteel (Decarbonisation Progress Level 2)<br>- International Council on Clean Transportation (ICCT) - lower emission steel<br>- IIGCC Steel Purchasers Framework<br>- IEA (Band D+)<br>- Industrial Deep Decarbonisation Initiative (Band D+)<br>- Low Emission Steel Standard (slightly different thresholds) - low emission steel |