NEW CLIMATE INSTITUTE

CARBON MARKET WATCH

Corporate Climate Responsibility Monitor 2025

FASHION SECTOR DEEP DIVE

ASSESSING THE TRANSPARENCY, INTEGRITY AND PROGRESS OF CORPORATE CLIMATE STRATEGIES

June 2025

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Fashion sector deep-dive (Chapter 5) of the Corporate Climate Responsibility Monitor 2025.

The full report or other sector-specific deep dives can be downloaded *here*.

About the Corporate Climate Responsibility Monitor

The *Corporate Climate Responsibility Monitor* evaluates the transparency and integrity of companies' climate strategies, with the objectives of **identifying good practices** and **highlighting areas for improvement in the corporate climate accountability system**.

Our guidance and assessment criteria focus on four main areas of corporate climate action: (1) tracking and disclosure of emissions; (2) setting emission reduction targets; (3) strategies for key transitions; and (4) taking responsibility for unabated and residual emissions.

This chapter of the 2025 *Corporate Climate Responsibility Monitor* focuses on the fasion sector. We focus on companies' GHG emission reduction targets and the key transitions that are necessary for decarbonising the food and agriculture sector, to understand the latest dynamics of climate strategy in the sector.

The full 2025 *Corporate Climate Responsibility Monitor* report analyses 20 companies from the automotive, tech, fashion and food and agriculture sectors, including a cross-sector analysis on the status quo of corporate climate responsibility.

This chapter on the fashion sector features analysis based on detailed case studies of **adidas**, **H&M Group**, **Inditex**, **lululemon** and **Shein** *(see section 5.2 for detailed company case studies)*.

→ *See the full 2025 Corporate Climate Responsibility Monitor (June 2025)*
→ *See also the assessment methodology for the Corporate Climate Responsibility Monitor. Guidance and assessment criteria for good practice corporate emission reduction and net-zero targets: Version 5.0 (NewClimate Institute, 2025).*

Fashion climate strategies show improvement but lack clear direction and depth.

5.1 Summary

This section presents a selection of key insights from the detailed analysis of the climate strategies of five major fashion companies: adidas, H&M Group, Inditex, lululemon, and Shein *(see Section 5.2 for detailed company case studies)*. For the analysis, we focus on companies' GHG emission reduction targets and the key transitions necessary for achieving deep emission reductions in the fashion sector.

We evaluate fashion companies' transition targets based on the sector-specific transition framework set out in *Figure 5.1*. Since the majority of the fashion sector's emissions footprint derives from energy used in garment production within the supply chain, we identify **electrifying manufacturing processes** and **sourcing renewable energy across the supply chain** as key transitions for the sector. Given the rate of overproduction and waste associated with current fashion business models, climate leadership in the sector also requires more significant shifts in their business models – specifically, **reducing overproduction** and **scaling the development and use of innovative, lower-GHG fibres for textile production** (NewClimate Institute, 2025).

We find that some fashion companies' climate strategies show promising signs of improvement. However, limited transparency on implementation plans, reliance on false solutions and a lack of commitment to move beyond fast fashion undermine their credibility.

- Although some fashion companies have significantly improved their GHG emission reduction targets over the past years, the credibility of these targets depends on measures to implement key transitions.
- Targets to procure renewable electricity within supply chains are emerging, but they are often not substantiated by credible plans to electrify production processes. Companies talk about coal phase-out but still rely on fossil gas and biomass – options that do not substantially reduce emissions and risk locking in carbon-intensive technologies.
- Transparency on supply chain energy consumption remains limited, making it challenging to assess progress across the sector. H&M Group stands out as a positive example of transparency with its disclosure of supply chain energy balances.
- Efforts to move beyond fast fashion business models are lacking and fragmented. Some companies have started to publish more information regarding circularity and sustainable fibres. However, they still fall short of making clear commitments to reduce overproduction and embrace circularity.

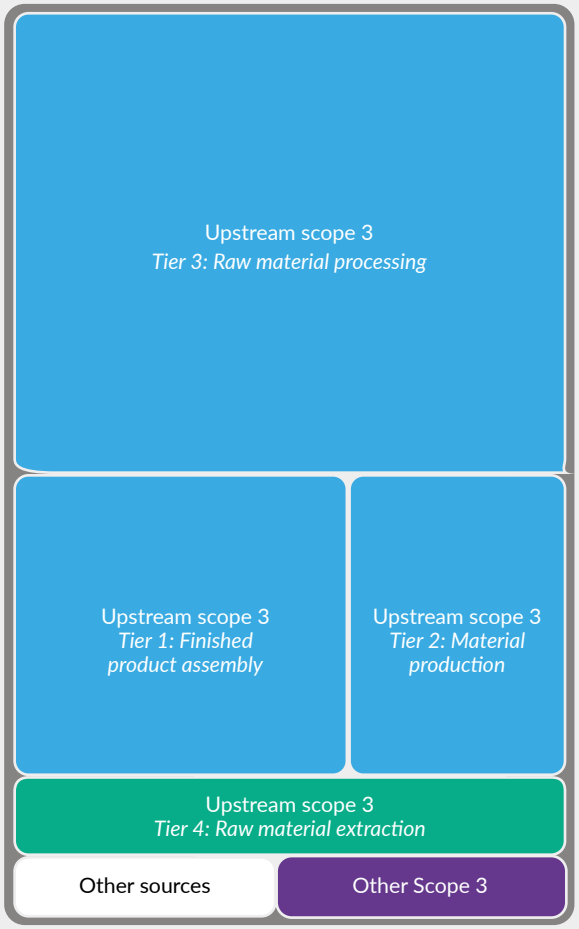
Despite progress, approaches to addressing key transitions in fashion supply chains remain mostly shallow and beset with false solutions. This underscores the need for more prescriptive guidance on key transitions.

- Companies should complement GHG reduction targets with specific goals for key transitions, which can guide decarbonisation efforts across the supply chain. Beyond coal phase-out commitments, **electrification** and **renewable energy in the supply chain** must become clear priorities. Companies also need to fundamentally rethink their business models to align with long-term sustainability and decarbonisation goals, moving away from the high-volume fast fashion paradigm.
- Standard setters such as ISO, GHG Protocol and SBTi should require transition alignment targets to guide companies' strategies on these key transitions and to more accurately evaluate the integrity of companies' commitments.
- Regulatory interventions are needed for a systemic shift to sustainable fashion business models that prioritise value over volume, recognising that there may be limits to what can be achieved through the unilateral ambition of leading companies guided by voluntary initiatives.

Figure 5.1: **Key transition framework for a fashion company** (NewClimate Institute, 2025)

GHG EMISSIONS FOOTPRINT

Indicative distribution of emission sources for average fashion company



5 KEY TRANSITIONS

Most relevant transitions to address major emission sources

1. **Supply chain electrification** *(Scope 3: Tier 1-3 production processes)*
   Electrification of heat generation processes is necessary to decarbonise the manufacturing process. Most thermal energy processes occur in tier 2, specifically in textile mills, and a bit in tier 1. Where relevant, corporates should commit to electrifying all energy processes that can be electrified and to phasing out on-site fossil fuel power-generators.

2. **Supply chain renewable energy** *(Scope 3: Tier 1-3 production processes)*
   Switching to 100% renewable electricity by 2030 using high-quality procurement constructs could reduce industry emissions by over 25% (Ley *et al.* 2021; Sadowski, Perkins, and McGarvey 2021; Perkins and Sadowski 2024; Sadowski 2023). For manufacturing processes that cannot be electrified, on-site coal boilers should be replaced with renewable heat processes.

3. **Reduce overproduction** and curb growth in virgin product volumes* *(All emission sources)*
   The fashion industry produces between 100 and 150 billion items of clothing each year, while at the same time 92 million metric tons of textile are wasted (GFA and BCG 2017). One out of every five garments ends up in a landfill, without ever being sold or used (Berg *et al.* 2020). According to some estimates, reducing the quantity of pre-consumer unsold clothing by 10% through more efficient supply chains and more accurate demand forecast tools could reduce industry-wide emissions by 9% by 2030 (Berg *et al.* 2020).

4. **Use lower-GHG fibres*** *(Scope 3: Tier 4 material extraction)*
   Emissions from raw materials are currently some of the hardest to eliminate from the fashion industry value chain, as there are no zero-GHG alternatives. However, these emissions can be reduced by increasing the use of lower-GHG alternatives (Textile Exchange 2023b). Research is ongoing to identify and commercialise the most sustainable solutions for textile fibres.

5. **Low emission logistics** *(Other scope 3)*
   Transport accounts for a significant portion of some companies' emissions footprints, depending on their business model and their product distribution logistics. Companies can minimise transport emissions through regional distribution centres and ocean-based shipping.

** **Benchmarks related to overproduction and fibres:** We were unable to identify clear indicators or benchmarks for the transitions. More guidance is needed on what targets and measures are most effective for these transitions, and what potential caveats could be.*

→ *See Evolution of corporate climate targets (NewClimate Institute, 2025) for further details on this sector transition framework and potential alignment target indicators.*

Figure 5.2: Summary of CCRM 2025 ratings for fashion companies (NewClimate Institute, 2025)

Integrity : 5-point rating scale:
High | Reasonable | Moderate | Poor | Very poor
Integrity refers to the quality and credibility of the approach.
? *Integrity assessment is unclear.*

→ *See Annex 5B and Annex 5C for further details on our integrity assessments for companies' targets and key transitions.*

Some fashion companies have significantly improved their GHG emission targets over the past years, but the credibility of such targets across the sector is mixed.

As shown in *Figure 5.3*, some fashion companies appear to have made considerable improvements to their GHG emission reduction targets in recent years. Notably, adidas and Inditex significantly strengthened their near- and longer-term GHG commitments in 2024, revising earlier targets that we previously assessed as insufficient (NewClimate Institute, 2023, 2024b). These changes follow the example of H&M Group, which had already set deep decarbonisation targets for 2030 and 2040 in 2022. All three of these companies' GHG emission reduction targets now appear to be aligned with sectoral benchmarks for 1.5°C-compatible emission pathways.

Other companies' targets remain more ambiguous and lack meaningful near- and long-term ambition. Shein has committed to reducing emissions by 25% by 2030 from a 2023 baseline – a target that would still allow its emissions to more than double compared to 2021 levels. lululemon expresses its 2030 GHG target in terms of emissions intensity per unit of profit. This profit-based emissions intensity expression makes its 60% reduction commitment difficult to interpret, as fluctuations in profitability can obscure real emissions trends. For instance, while lululemon claims a 31% reduction in scope 3 emissions intensity, its absolute scope 3 emissions have increased 22% since 2021 (lululemon, 2024a, p. 35). For this reason, lululemon's target may still allow for absolute increases in GHG emissions.

Despite substantial differences in target ambition and credibility, all five companies' 2030 GHG targets are validated as 1.5°C-compatible by the Science Based Targets initiative. This lack of differentiation may undermine the leadership of companies like H&M Group, adidas and Inditex committing to absolute emission reduction targets that are aligned with sectoral benchmarks *(see Annex 5A)*.

Trends in reported emissions reductions over the past five years also present a mixed picture. adidas and H&M Group appear to be broadly on track to reach their 2030 emission reduction targets, showing reductions in both absolute emissions and emissions intensity. However, data from Inditex and lululemon suggests less meaningful progress, while Shein has seen significant increases in absolute emissions during this period.

Beyond the significant differences in the integrity of these companies' targets and their progress, the credibility of fashion companies' GHG reduction targets cannot be meaningfully assessed without evaluating companies' underlying strategies for key transitions. Ultimately, the integrity of these targets hinges on whether they reflect genuine, systemic transitions – or merely serve to mask high-emissions business models through creative accounting and low-integrity instruments.

Figure 5.3: GHG emission reduction targets of fashion companies

	adidas	H&M Group	Inditex	lululemon	Shein
Overall integrity of GHG targets	**Reasonable** Targets are aligned with sectoral benchmarks but missing a medium-term trajectory	**High** Targets are aligned with sectoral benchmarks but missing a medium-term trajectory	**High** Targets are aligned with sectoral benchmarks but missing a medium-term trajectory	**Poor** Targets are aligned with sectoral benchmarks but missing a medium-term trajectory	**Poor** Near-term target is critically misaligned with sectoral benchmarks and net-zero commitment falls slightly short of sectoral benchmarks.
Near-term targets	2030 target to reduce scope 1 and 2 emissions by 70%, and scope 3 emissions by 42% below 2022 levels.	2030 target to reduce scope 1, 2, and 3 by 56% below 2019 levels.	2030 target to reduce scope 1 and 2 emissions by 95% and scope 3 emissions by 51% below 2018 levels.	2030 target to reduce profit-based emissions intensity of scope 3 emissions by 60%. This target has limited meaning due to the volatility of profit fluctuations and would allow emissions to increase.	2030 target to reduce scope 1 and by 42% and scope 3 by 25% below 2023 levels. These targets translate to a reduction of 25% across the value chain, which is not aligned with sectoral benchmarks and would allow Shein to more than double its emissions compared to 2021.
Medium-term targets	No target identified	2040 target to reduce scope 1, 2 and 3 emissions by 90% below 2019 levels.	2040 target to reduce scope 1 and 2 emissions by 95%, and scope 3 emissions by 90% below 2018 levels.	No target identified.	No target identified.
Long-term targets	2050 net-zero target is substantiated with a commitment to reduce emissions by 90%.			2050 net-zero target is substantiated with a commitment to reduce emissions by 90%.	2050 net-zero emission pledge is substantiated with a commitment to reduce emissions by 90% below 2023 levels, which translates to a reduction of 79% below 2021 levels.
Changes from previous assessments in 2023 and 2024	adidas has improved its targets, which we previously rated as **poor integrity** in 2024	H&M Group has not recently updated its targets, which we rated as **reasonable integrity** in 2023 and **high integrity** in 2024	Inditex has twice revised its targets, which we rated as **very poor integrity** in 2023 and **reasonable integrity** in 2024	Lululemon and Shein have not been assessed in previous editions of this report.	
What are actual emission trends in recent years?	Absolute emissions and emissions intensity have decreased in recent years. These companies seem roughly on track to meet their 2030 targets.		Absolute emissions have only slightly decreased since 2019 and have not changed between 2023 and 2024. Historical data is incomplete.	Reported emission intensity reductions are driven by increasing revenues. Absolute emissions have increased since 2021.	Shein's emissions have significantly increased in recent years.

Integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Integrity refers to the quality and credibility of the approach.

? *Integrity assessment is unclear.*

Targets to procure renewable electricity within supply chains are emerging, but they are often not substantiated by credible plans to electrify production processes.

Some companies are replacing coal with fossil gas and biomass – options that do not substantially reduce emissions and risk locking in carbon-intensive technologies.

To be credible, fashion companies' GHG reduction targets must be supported by concrete strategies to implement key transition measures – particularly the **electrification of manufacturing processes** and the **procurement of renewable energy** in supply chains.

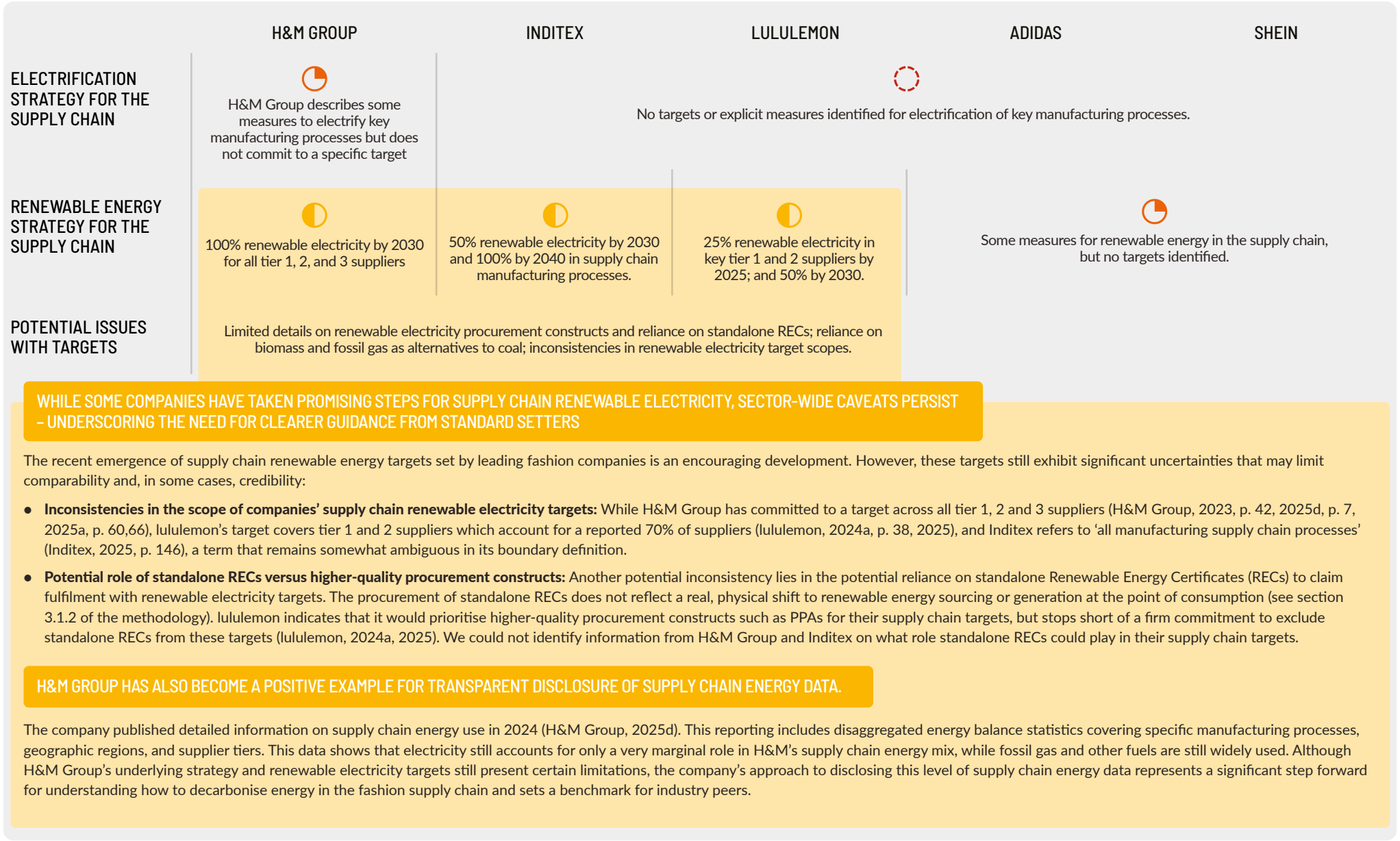
Energy use in garment manufacturing is the primary source of emissions for fashion companies, accounting for approximately 85% of their total emissions footprint (Berg """", 2020; Sadowski *et al.*, 2021). This is largely driven by the use of fossil fuels to generate electricity and heat in the processing of raw materials, fabric production and garment assembly.

In a positive shift, we find that more companies are coming forward with plans to procure renewable electricity in their supply chains. Despite the importance of this emission source, our previous analysis (NewClimate Institute, 2024c) highlighted that no major fashion company had set specific targets for supply chain electricity, except for H&M Group, which was the first to set a target in 2022. Since then, lululemon and Inditex have also set specific supply chain targets *(see Figure 5.4)*. These developments are positive – albeit overdue – and should raise awareness of the need for other companies to follow suit. However, the current targets are often undermined by unclear scope definitions and the questionable quality of the renewable electricity procurement instruments on which they are based *(see Figure 5.4 for further details)*. These caveats must be addressed before these strategies can be meaningfully replicated.

Despite a growing number of commitments to procure renewable electricity in fashion supply chains, these targets are rarely integrated into broader electrification plans for production processes across the supply chain. Electrification is a foundational step for deep decarbonisation of supply chains as it enables the replacement of fossil fuel-based and inefficient heat and steam systems – including not only coal boilers but also fossil gas and biomass – with renewable electricity. However, corporate discourse often narrowly focuses on replacing coal without explicitly addressing the need to transition away from fuel combustion to electrified production. For example, coal accounted for just 3% of H&M Group's known supply chain energy in 2024, while other fuels including fossil gas accounted for at least 59%, and only 11% of energy came from electricity (H&M Group, 2025d, p. 4). This has enabled misleading narratives to emerge, in which fossil gas and biomass are either overlooked or promoted as viable alternatives to coal. These fuels, however, are not aligned with 1.5°C-compatible emission pathways for the sector *(see Box 5.1)*.

Transparent disclosure of supply chain energy balances and strategies is key but remains generally lacking across fashion companies. H&M Group stands out as a positive example of transparency. At present, assessing real progress on decarbonising fashion supply chains is extremely challenging due to the limited availability of meaningful data. Public disclosures rarely include basic information such as the number and location of factories, the prevalence and types of boilers in use, or where coal combustion remains part of the energy mix. Even less is disclosed on the nature and quality of renewable energy instruments being used – for example, whether companies rely on standalone Renewable Energy Certificates (RECs) or support suppliers in investing in local, additional renewable generation. Without this foundational transparency, it remains impossible to assess the integrity of corporate claims or to distinguish genuine transformation from superficial reporting. Yet such disclosure on supply chain energy remains largely absent across the fashion sector. Notably, H&M Group has become a positive exception after publishing detailed information on supply chain energy use in 2024 *(see Figure 5.4)*. However, the limitations and challenges outlined in this document regarding electrification rates are not transparently communicated alongside the progress that the company reports on renewable electricity shares.

Figure 5.4: Fashion companies' strategies for supply chain electrification and renewable energy



WHILE SOME COMPANIES HAVE TAKEN PROMISING STEPS FOR SUPPLY CHAIN RENEWABLE ELECTRICITY, SECTOR-WIDE CAVEATS PERSIST – UNDERSCORING THE NEED FOR CLEARER GUIDANCE FROM STANDARD SETTERS

The recent emergence of supply chain renewable energy targets set by leading fashion companies is an encouraging development. However, these targets still exhibit significant uncertainties that may limit comparability and, in some cases, credibility:

- **Inconsistencies in the scope of companies' supply chain renewable electricity targets:** While H&M Group has committed to a target across all tier 1, 2 and 3 suppliers (H&M Group, 2023, p. 42, 2025d, p. 7, 2025a, p. 60,66), lululemon's target covers tier 1 and 2 suppliers which account for a reported 70% of suppliers (lululemon, 2024a, p. 38, 2025), and Inditex refers to 'all manufacturing supply chain processes' (Inditex, 2025, p. 146), a term that remains somewhat ambiguous in its boundary definition.
- **Potential role of standalone RECs versus higher-quality procurement constructs:** Another potential inconsistency lies in the potential reliance on standalone Renewable Energy Certificates (RECs) to claim fulfilment with renewable electricity targets. The procurement of standalone RECs does not reflect a real, physical shift to renewable energy sourcing or generation at the point of consumption (see section 3.1.2 of the methodology). lululemon indicates that it would prioritise higher-quality procurement constructs such as PPAs for their supply chain targets, but stops short of a firm commitment to exclude standalone RECs from these targets (lululemon, 2024a, 2025). We could not identify information from H&M Group and Inditex on what role standalone RECs could play in their supply chain targets.

H&M GROUP HAS ALSO BECOME A POSITIVE EXAMPLE FOR TRANSPARENT DISCLOSURE OF SUPPLY CHAIN ENERGY DATA.

The company published detailed information on supply chain energy use in 2024 (H&M Group, 2025d). This reporting includes disaggregated energy balance statistics covering specific manufacturing processes, geographic regions, and supplier tiers. This data shows that electricity still accounts for only a very marginal role in H&M's supply chain energy mix, while fossil gas and other fuels are still widely used. Although H&M Group's underlying strategy and renewable electricity targets still present certain limitations, the company's approach to disclosing this level of supply chain energy data represents a significant step forward for understanding how to decarbonise energy in the fashion supply chain and sets a benchmark for industry peers.

Integrity : 5-point rating scale:
High | Reasonable | Moderate | Poor | Very poor
Integrity refers to the quality and credibility of the approach.

BOX 5.1 – Moving beyond coal phase-out: electrification as the core strategy for decarbonising fashion supply chains

As fashion companies commit to phasing out coal from their supply chains, what replaces coal is just as critical as eliminating it.

In many cases, companies and their suppliers are turning to fossil gas or biomass as interim energy sources:

- **adidas** commits to phasing out coal-fired boilers at all direct supplier facilities by 2025, reporting that over 48 boilers had been converted to use other fuels, including biomass and fossil gas, by the end of 2023 (adidas, 2024). adidas highlights electrification as a long-term solution but does not yet provide clear targets for transitioning suppliers to electric thermal systems (adidas, 2024, p. 184).
- **H&M Group** includes 'sustainably sourced' biomass among permitted alternatives in its supplier guidance on thermal energy, though it emphasises a long-term preference for electrification where feasible (H&M Group, 2024b, p. 18). H&M Group has also published several case studies where it has supported supply chain partners in shifting from coal to biomass. However, fossil gas is the main issue in H&M Group's supply chain, accounting for the majority of supply chain energy in 2023, while coal and biomass both accounted for only 3% of supply chain energy. (H&M Group, 2025d).
- **Inditex** has implemented pilot projects involving biomass boilers in selected wet processing facilities to explore alternatives to coal for thermal energy generation (Inditex, 2025). The company also encourages the use of biomass in specific contexts through its Best Available Techniques (BATs) tool, which provides suppliers with guidance on adopting lower-impact technologies, including biomass combustion systems for heat-intensive processes such as dyeing and finishing (Inditex, 2024b).
- **lululemon** encourages suppliers to transition to 'lower-carbon fuels' as part of its energy transition support program, although details on what this includes remain limited and ambiguous (lululemon, 2024a).
- **Shein** has not disclosed specific information on fuel-switching strategies in its supply chain. Independent assessments indicate continued reliance on coal (Zhang, 2023).

Sustainable biomass is neither a realistic solution nor a transitional step for the fashion industry

While biomass is often framed as a 'renewable' fuel, its use in the fashion sector raises serious sustainability concerns. Bioenergy is not an emissions-free energy source, and companies that use bioenergy need to apply emission factors when reporting on their energy emissions. Emissions may occur, for example, when land with a high carbon stock is cleared to produce bioenergy crops, when converting biomass into fuels or electricity and when transporting bioenergy crops to where they are consumed *(see methodology section 3.1.3 for further details)*.

These fuels also carry their own environmental and social risks, particularly where biomass is not sustainably managed. For example, investigations have shown that in key production hubs like Cambodia, garment factories frequently fuel their boilers with illegally harvested wood from protected forests, undermining environmental safeguards and contributing to biodiversity loss (Flynn and Ball, 2023). One study estimates that over 200,000 tons of forest wood are burned annually by Cambodia's garment industry alone, equating to the destruction of up to 1,400 hectares of forest per year (Parsons *et al.*, 2021). This not only results in direct carbon emissions from combustion, but also contributes to deforestation-related emissions, making biomass far from carbon-neutral in practice.

Although companies frequently point towards commitments to use only *sustainable* biomass, experts within the industry and local civil society organisations are also voicing caution that this cannot be a solution at scale. A former head of H&M's supply chain decarbonisation and coal removal programme recently indicated that biomass cannot serve as a long-term solution at scale, noting the limited potential supply of agricultural residues in many garment-producing regions and the heavy reliance on wood chips and palm kernel shells, which are 'decimating the remaining natural forests' (Ford, 2025). Civil society organisations have called out biomass as a 'false solution' for the fashion industry (Zhang, 2023).

Biomass may only be a reasonable option for emission sources with very limited technical potential for electrification. Some sectors that are difficult to electrify and have limited alternatives to decarbonise might rely on bioenergy to some extent, for instance aviation, maritime shipping and heavy industry (Calvin *et al.*, 2020; Clarke *et al.*, 2022). However, increasing demand for bioenergy in industries where the mitigation potential of existing technologies remains limited will lead to competition for limited biomass resources *(see e.g. Pavlenko and Kharina, 2018; ETC, 2021)*, which is likely to further exacerbate sustainability issues. It is estimated that sustainable biomass supply will amount to just 40 to 60 EJ per year by 2050, whereas potential demand could amount to over 65 EJ per year in just four sectors (i.e. wood materials, pulp and paper, plastic feedstocks and aviation) and higher if including other sectors that are also currently planning to rely on biomass in their decarbonisation trajectories (ETC, 2021).

Switching fuel from coal to fossil gas or biomass, while sometimes framed as a transitional step, risks locking in alternative carbon-intensive infrastructure and delaying the systemic transformation required for long-term decarbonisation (*see methodology section 3.1.3)*.

Electrification is a viable alternative for thermal energy processes

A growing consensus now points to electrification – powered by high-quality renewable energy – as the only scalable and sustainable pathway for decarbonising fashion's thermal energy needs.

Some companies cite technical constraints and a lack of viable alternatives for thermal energy processes. However, a growing body of evidence indicates that many thermal processes in textile production – such as dyeing and drying – can be redesigned or replaced through electrified, low-temperature technologies, including but not limited to the following (Hasanbeigi and Zuberi, 2022; Lara *et al.*, 2022; Hasanbeigi *et al.*, 2024, 2025):

- **Waterless dyeing technologies:** Conventional dyeing is highly water- and energy-intensive, often requiring large volumes of hot water heated by combustion boilers. However, supercritical CO_2 dyeing eliminates water use entirely by dissolving dyes into CO_2 under high pressure, enabling them to penetrate synthetic fibres. This method significantly reduces energy requirements and removes the need for drying. Digital dyeing technologies, such as inkjet printing on fabric, also reduce water use and allow for precise application of dyes with minimal waste. In February 2025, H&M Group announced that it would start to pilot supercritical CO_2 dyeing in the garment production line with its partner factories Arvind Ltd in India and Chorka Textiles in Bangladesh (Greenext, 2025). Inditex has signed offtake agreements with technology developer and manufacturer Dyecoo for supercritical CO_2 dyeing installations (Wilson, 2022). Reports indicate that adidas may also start to introduce Dyecoo installations in their supply chain after contracting a life cycle assessment into the technology at a Vietnamese factory in 2023 (Carr, 2023).
- **Infrared and radiofrequency dryers:** Fabric drying typically requires sustained heat, which is often provided through steam generated by fuel combustion. Infrared dryers use radiation to heat the fabric directly, offering faster drying times and more precise control. Radiofrequency dryers penetrate the material and heat it volumetrically, improving efficiency, particularly for thicker fabrics. These systems are more energy-efficient than traditional dryers and can be powered entirely by electricity from renewable sources. We could not identify any public information linking the fashion companies we have analysed to the use of infrared and radiofrequency dryers.
- **Ultrasonic washing:** Traditional washing uses large amounts of hot water and detergents. Ultrasonic washing uses high-frequency sound waves to agitate water and remove dirt and chemicals from textiles, significantly reducing water and thermal energy consumption (Hasanbeigi and Zuberi, 2022). Multiple manufacturers including Sonotronic, Weber Ultrasonics and Geratex Machinery have developed ultrasonic washing modules that can be integrated directly into existing production lines (Textile Network, 2020; Sonotronic, 2025), although we could not identify any public information linking the fashion companies we have analysed to the use of these technologies.
- **High-efficiency electric boilers:** Where steam is still required for processes such as pressing or sanitising, high-efficiency electric boilers provide a direct replacement for fuel-fired systems. Electric boilers can achieve high thermal efficiency, particularly when integrated with advanced controls and renewable electricity sources. Though upfront costs are higher than traditional systems, they offer substantial long-term savings through efficiency and reduced maintenance. We could not identify any public information linking the companies we have analysed to the use of high-efficiency electric boilers, although H&M Group announced a partnership with Rondo Energy in 2024 to develop thermal batteries to electrify steam production (Wenzel, 2025).
- **Industrial heat pumps:** Heat pumps work by using electricity to transfer heat from lower-temperature sources to higher-temperature sinks. Heat pumps are very efficient, and this high efficiency can lead to significant emission reductions, even when powered by a carbon-intensive electricity grid. In the context of textile wet processing, commercially available heat pumps can already reach the required process temperatures and supply hot water and steam at various levels. While there are some economic and technical barriers to widespread adoption, heat pumps offer greater energy cost savings compared to electric boilers. Industrial-scale heat pumps suitable for textile manufacturing are expected to become more widely available by 2030. H&M Group reports that it is helping suppliers transition to heat pumps in its supply chain but does not provide details (H&M Group, 2024b, pp. 11, 18).

These technologies, while requiring capital investment and process adaptation, offer pathways to nearly eliminate thermal emissions in many parts of textile production. They offer improved energy efficiency, operational savings and long-term climate alignment. Their successful deployment depends on alignment with renewable electricity supply, whether through on-site generation or renewable power purchase agreements.

Effective climate-aligned strategies should prioritise electrification over fuel substitution.

Companies are already taking action to phase out coal. However, simply encouraging suppliers to switch to fossil gas or biomass risks locking them into high-emission pathways and detracts from the structural transition needed.

Instead, companies should provide financial and technical support to help suppliers invest in next-generation technologies and electrified systems, helping to future-proof their supply chains and avoid stranded assets. For example, a group of outdoor sports brands, in collaboration with The Outdoor Industry Association and Global Efficiency Intelligence, launched an open-source tool in January 2025 for textile mills to understand and model scenarios for electrifying their processes and to connect them to technology manufacturers and suppliers (Hasanbeigi and Springer, 2025).

Policy and industry guidance should evolve beyond standalone coal phase-out targets and incentivise supply chain electrification as a key lever for long-term decarbonisation of fashion supply chains. Specifically, the United Nations Fashion Charter, which requires signatories to set coal phase out targets (UNFCCC, 2021), does not offer guidance on electrification of manufacturing processes as a credible alternative to coal.

Efforts to move beyond fast fashion business models are lacking and fragmented.

Some companies have started to publish more information regarding circularity and sustainable fibres. However, companies still fall short of making clear commitments to reduce overproduction and embrace circularity.

Fashion companies' sustainable fibre strategies are more transparent, but it remains unclear how increased use of 'sustainable' or 'preferred' fibres will reduce emissions. All five companies assessed have now set quantified targets to increase the use of 'preferred fibres', and all companies report progress for each of these fibres, marking a notable improvement in transparency compared to previous years. adidas, H&M Group, Inditex and lululemon have introduced more specific commitments and clearer definitions around fibre sourcing, reducing ambiguity around terms such as 'sustainable' or 'preferred' fibres and materials. These four companies have aligned their definition of 'preferred fibres' with Textile Exchange's Preferred Material Matrix (Textile Exchange, 2025). According to Textile Exchange, 'preferred fibres' have lower impacts on a series of environmental criteria compared to reference fibres. Although 'preferred fibres' may reduce emissions, this may not always be the case (Textile Exchange, 2025), making it difficult to assess whether companies are on the right track. The environmental impacts of textile fibres are highly complex, involving factors such as GHG emissions, microplastic pollution, water use efficiency and land use change, amongst others (Jensen *et al.*, 2023). Given these complexities, companies should move beyond sourcing 'preferred fibres' to decarbonise clothing production. Instead, companies should fill the material and fibre innovation gap and push for low-GHG materials while also prioritising circularity and material efficiency measures (Textile Exchange, 2023).

Companies are showing signs of moving towards textile-to-textile recycling, with one company setting a target to source more recycled polyester made from textile waste. While some companies are starting to test and support infrastructure for textile-to-textile recycling, companies are still mostly using PET bottles for recycled polyester. Using PET bottles as feedstock for recycled polyester is not efficient or sustainable because it diverts materials from the drinks and packaging sectors, where they can be recycled more times and with far less processing (Cobbing and Vicaire, 2017; Majumdar *et al.*, 2020). Scaling up demand for PET bottles as an input material could also create improved economic incentives for fossil fuel exploration and extraction, which the chemical subproducts of PET bottles mostly derive from (Karali *et al.*, 2024). Promisingly, some companies are taking initial steps toward advancing textile-to-textile recycling, a technology that is still under development but could contribute to reducing the use of virgin materials for clothing production. adidas is the only company that has set a target to increase the share of textile-to-textile recycled polyester (adidas, 2024, p. 233). H&M Group, Inditex, lululemon and Shein all report supporting investments to develop infrastructure for textile-to-textile recycling, along with offtake agreements for new materials from these ventures (Inditex, 2023; H&M Group, 2024c; lululemon, 2024a; Shein, 2025b). Except for lululemon, who has signed a 10-year offtake agreement which could lead to it sourcing approximately 20% of its fibres from textile-to-textile recycling (Samsara Eco, 2025), the significance of these offtake agreements remains limited. Inditex launched its first products made entirely from recycled textile waste in 2024 (Inditex, 2024a). Such efforts may be particularly constructive, because textile-to-textile recycling – while still in its early stages – is currently not feasible at scale and may require significant infrastructural shifts. Commitments to technology and infrastructure development, rather than simply shifting fibre types, represent an effort to constructively contribute to the considerable challenges of decarbonising the fashion sector supply chain.

Despite companies communicating more detailed strategies on circularity and sustainable fibre use, the fast fashion business model remains a critical barrier to meaningful change. Increasing recycling rates alone will not drastically reduce overproduction and virgin material inputs. The rapid production cycles, low price points and vast volumes associated with fast fashion are fundamentally misaligned with the transition to a low-carbon economy (Coscieme *et al.*, 2022). While some companies are taking promising steps toward circularity, such as launching resale platforms and introducing clothing take-back programs, these efforts remain marginal within their broader business strategies. For example, H&M Group has demonstrated high transparency by reporting the percentage of revenue generated from its resale platforms, offering a glimpse into the company's commitment to circularity. However, resale accounted for just 0.6% of its total revenue in 2023 (H&M Group, 2024b), indicating that these platforms do not yet represent a major component of the company's business model. The measures implemented by H&M Group and other companies do not sufficiently address the need to massively reduce the input of virgin materials to reach decarbonisation milestones for the sector. For instance, Shein reports some measures for improved circularity, but its ultra-fast fashion business model, which incentivises high production volumes and low price points (Dzhengiz *et al.*, 2024), is incompatible with reducing virgin material use. This misalignment risks undermining the credibility and impact of circularity claims. Ultimately, the effectiveness of these initiatives depends on whether they drive a shift in the company's business model away from the fast fashion paradigm. No matter how much innovation or capital is invested in downstream solutions like clothing recycling or resale platforms, there will be no substantial progress on reducing emissions unless industry and policymakers address the upstream root cause: excessive production.

Box 5.2: Regulatory interventions are needed to address overproduction and waste

The deep decarbonisation of the fashion industry requires companies to go beyond incremental technology improvements. It demands a more systemic transformation involving all actors across the value chain. Regulators have a crucial role to play, given the limitations of addressing overproduction and waste solely through the unilateral ambition of leading companies guided by voluntary initiatives. For example, the following regulatory interventions could support the transition away from fast fashion business models:

- **Implement robust Extended Producer Responsibility (EPR) schemes:** EPR schemes require producers to take financial and operational responsibility for the full lifecycle of their products, including end-of-life management (OECD, 2024). This can be done through either financial contributions (e.g. covering public collection and treatment costs) or operational measures (e.g. setting up collection systems themselves). Producers typically fulfil these obligations by paying ongoing fees based on product characteristics (e.g. recyclability, durability, or recycled content), which fund waste management and circularity initiatives. Following a provisional agreement in early 2025, EPR for textiles will become mandatory across all EU member states, including for companies outside the EU that place textiles on the EU market, as part of the Commission's 2030 Vision for Textiles (Segal, 2025).

  However, EPR should be viewed as a starting point rather than a silver bullet. While a step in the right direction, current schemes remain limited: production volumes continue to rise even in countries with EPR in place, as garments are often discarded for reasons unrelated to durability (e.g. changing fashion trends). The scheme can play a supportive role by internalising some of the environmental costs, but its impact will remain limited unless fees are set at levels high enough to influence business decisions and are paired with stronger upstream measures to address overproduction (Brown and Börkey, 2024).

- **Mandate production volume reporting and reduction targets:** Companies need clearer signals on how much less they should be producing to align with 1.5°C-compatible pathways, which likely requires a fundamental rethink of supply chains and business models. Regulators can drive the shift towards reduced virgin material use by mandating public reporting of annual tonnage placed on the market and by setting sector-wide reduction milestones. Public Eye (2024) suggests that achieving a sustainable fashion system that thrives within planetary boundaries requires a 40% cut in virgin material input by 2030, including a 60% reduction in fossil-based fibres and a 10% reduction in natural virgin materials.

- **Prohibit destruction of unsold and returned inventory:** Policymakers could prohibit the destruction of 'deadstock' of consumer apparel, clothing accessories and footwear, as introduced by the EU's Eco-Design for Sustainable Products Regulation, which is set to take effect in July 2026 (Mörsen, 2023; Macintosh, 2024). Without such regulation, companies can continue to overproduce with little consequence, knowing that excess stock can be destroyed rather than resold at a discount or redistributed to communities in need (EEA, 2024). The ban would help make overproduction less viable as a business strategy. Such measures should be enforced across jurisdictions.

- **Implement demand-reduction policies:** Policymakers could also consider the role of marketing tactics in fuelling overconsumption (Maldini and Grimstad Klepp, 2025). Policies targeting impulse-driven sales, such as restricting advertising of ultra-fast fashion or regulating 'buy-now-pay-later' schemes, could help curb non-essential purchases (Public Eye, 2024). These types of behavioural-change interventions have already been applied in public health contexts (e.g. for tobacco and alcohol) and could be adapted to limit the pace of fast fashion. More broadly, policies aimed at reducing demand could promote the sufficiency principle to shift norms towards mindful purchasing behaviour, for example by supporting fashion rental subscription models that encourage extended and collective use of textiles (Mörsen, 2023). Recently, France adopted a policy bill which would drastically restrict ultra-fast fashion companies' advertising practices while also charging a fee for garments with high environmental impacts (French National Assembly, 2024).

Recommendations

Fashion companies should set clear, robust plans for the sector's key transitions to complement GHG emission reduction targets, especially with regard to electrification and reducing overproduction. Clearer guidance is needed to support them in developing credible transition plans.

Recommendations for companies

- **Prioritise the electrification of production processes in the supply chain:** Companies should provide detailed disclosure on current reliance on coal, fossil gas and biomass in the production processes of their supply chains and outline how they are supporting suppliers in transitioning to electricity-based technologies. Brands should commit to phasing out all fossil fuels, including fossil gas, and they should implement stricter guidelines to limit the use of biomass and invest in helping suppliers electrify.
- **Improve and replicate renewable energy strategies across the supply chain:** Companies should replicate emerging good practices, but more guidance can help to address the significant nuances and caveats that could undermine those strategies.
- **Set targets for and invest in research and innovation in lower-emission fibres:** Companies should continue to experiment and research innovative lower-emission fibres and invest in the infrastructure and systems needed to scale textile-to-textile recycling and lower-emission fibres. In particular, companies should set targets to increase the share of textile-to-textile recycled fibres. Alongside these efforts, companies also need to be transparent on the measures they implement to scale lower-GHG fibres and the limitations of these measures for decarbonising the sector. Such efforts should not be used as a delay tactic to avoid acting on other key transitions today.
- **Shift the fashion business model from volume to value:** Achieving net-zero targets will require more than material substitution and increased use of recycled fibres. Deep decarbonisation will require a structural shift away from fast fashion business models toward circular business models and material efficiency, resulting in lower virgin fibre inputs and reduced waste. Some decarbonisation roadmaps for the fashion sector are calling for a 40% reduction in virgin material use by 2030 (Public Eye, 2024). While some companies are beginning to outline strategies for this, these efforts remain shallow and lack clear commitments.

Urgent priorities for ISO, GHG Protocol and SBTi standard development processes

- **Require transition alignment targets to guide corporate climate action:** Despite progress on GHG targets, the inconsistent approaches to address key transitions in fashion supply chains reveal the urgent need for GHG targets to be supported by specific, measurable transition targets that guide decarbonisation efforts across the supply chain.
- **Clarify the role of biomass in standard-setting frameworks:** While biomass is often seen as a renewable alternative, it is not carbon-free and can cause significant environmental harm. In the fashion sector, where technology shifts toward electrification are viable, biomass should not be the go-to solution. Using biomass in sectors that are easier to decarbonise reduces its availability for other industries, where it may be a critical decarbonisation pathway. Clearer guidelines are essential to ensure that biomass is used effectively in the right applications and not as a false solution in industries like the fashion supply chain.

Broader issues that require further guidance and regulation for more structural change

Guidance and regulation on circularity and lower-emission fibres is critical. The broader ecosystem – including standards bodies, researchers, and policymakers – must play a stronger role in developing benchmarks and guidance that can help steer companies toward the right transitions.

- **Regulatory interventions are needed to address overproduction and waste.** A shift to more sustainable business models in the fashion industry demands a more systemic transformation involving all actors across the value chain. There may be limits to what can be achieved through the unilateral ambition of leading companies guided by voluntary initiatives. Regulators can implement extended producer responsibility schemes and mandate production volume reporting and reduction targets. They can also prohibit destruction of unsold and returned inventory, among other potential regulatory measures.
- **For fibres, there is a need for more specific, climate-focused benchmarks that address the environmental impacts of materials and help identify false solutions.** Current available 'sustainable' or 'preferred' fibres appear to offer limited climate benefits (Textile Exchange, 2025). Establishing such benchmarks may be complicated due to inherent trade-offs with other planetary boundaries, such as water and land use. There also needs to be a better understanding of the impact certain technologies, like textile-to-textile recycling, will have on emissions.
- **For circularity, alternative business models like rental and resale need to be guided by clear 1.5°C-aligned emission pathways and benchmarks.** For instance, companies need guidance on what percentage of revenue they should aim to come from these models by 2030, to be on track with the necessary speed of the transition. Also, more research is needed to understand what impact certain circularity measures such as increased clothing durability or implementation of resale platforms will have on emissions.

5.2 Company analyses

The following pages set out our detailed analyses of **adidas**, **H&M Group**, **Inditex**, **lululemon** and **Shein**.

→ *See the assessment methodology for the Corporate Climate Responsibility Monitor. Guidance and assessment criteria for good practice corporate emission reduction and net-zero targets: Version 5.0 (NewClimate Institute, 2025).*

The Corporate Climate Responsibility Monitor presents the authors' independent analysis and interpretations based on information that is publicly available and self-reported by the companies assessed and third-party analyses. The authors did not independently verify, audit, or validate the accuracy or completeness of the information provided by the companies. Due to the potential for fragmentation, inconsistency, or ambiguity in the companies' disclosures, the authors cannot guarantee the factual accuracy or completeness of the information presented in this report.

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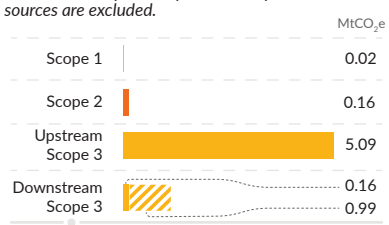
adidas

adidas' 2030 emission reduction target is aligned with 1.5°C-compatible benchmarks for the sector, and its net-zero target for 2050 is substantiated with a clear commitment to reduce emissions across the value chain by at least 90% compared to 2022 levels. The company implements several promising measures for the decarbonisation of its supply chain, including scaling up textile-to-textile recycling and renewable electricity. However, it is encouraging suppliers to switch from coal-fired to biomass and natural gas-fired boilers, which substantially reduces the emission reduction potential for its coal phase-out.

TRANSPARENCY	INTEGRITY
Moderate	Moderate

1 TRACKING AND DISCLOSURE OF EMISSIONS

adidas publicly discloses emissions broken down by scope for the past three years. The company also presents a breakdown by emission source for 2024, but does not explain why certain scope 3 emission sources are excluded.



MAJOR EMISSION SOURCES

- Textile manufacturing (Tiers 1-3)
- Overproduction and waste
- Fibre and material extraction
- Transportation

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net-zero GHG emissions for Scope 1, 2 and 3 by 2050*

			TRANSPARENCY	INTEGRITY
Short term	**42%** below 2022	*Target to reduce scope 1 & 2 emissions by 70%, and scope 3 emissions by 42% by 2030 below 2022. These targets are aligned with sectoral benchmarks and cross-sector benchmarks.*	High	High
Medium term	**N/A**	*No target identified.*	Very poor	Very poor
Longer term	**90%** below 2022	*adidas commits to reducing its emissions by 90% below 2022 levels alongside its net-zero target.*	Reasonable	Reasonable

EMISSION TRENDS

✔ *Absolute emissions and emissions intensity have reduced in recent years, and seem roughly on track towards the company's targets.*

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Electrification of heat and manufacturing processes	*No target identified on electrification of key manufacturing processes, despite coal phase-out commitment.*	Very poor	Very poor
Renewable energy in the supply chain	*adidas is working with suppliers to increase share of RE in supply chain but no targets identified.*	Moderate	Poor
Reduce overproduction and slow growth in virgin product	*adidas addresses the need to transition to circularity but does not implement measures to reduce overproduction.*	Poor	Very poor
Source low-carbon fibres	*adidas has set targets on sourcing 'sustainable' fibres, including an increase of the textile-to-textile recycled polyester share, but target cannot be assessed due to lack of available benchmarks.*	Reasonable	?
Sustainable logistics and transport solutions	*adidas implements some measures to decarbonise freight but does not set targets on the transition.*	Moderate	Poor

TRANSITION PROGRESS

- ↩
- ✖ *adidas is increasing the use of RE in its supply chain, moving towards textile-to-textile polyester recycling, and reducing use of air freight. However, measures on key indicators are missing or insufficient data is provided to measure progress for most of these key transitions.*
- ?
- ?
- ?

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*No climate contributions identified.*	Very poor	Very poor
Support for durable carbon dioxide removals	*No current support for durable CDR identified, although adidas plans to neutralise up to 10% of its emissions with 'permanent CDR', in line with SBTi requirements.*	Very poor	Very poor

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- ✚ Right direction, off track
- ✖ Well off track
- ↩ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Source: *adidas 2024.*

adidas

adidas AG, headquartered in Germany, is one of the world's largest sportswear brands. Above 95% of its emissions stem from the production and processing of raw materials and assembly of clothes and shoes (all scope 3, category 1). adidas implements several promising measures for the decarbonisation of its supply chain, including scaling up textile-to-textile recycling and renewable electricity. However, it is encouraging suppliers to switch from coal-fired to biomass and natural gas-fired boilers, which substantially reduces the emission reduction potential for its coal phase-out. The company's 2030 emission reduction target is aligned with 1.5°C-compatible benchmarks for the sector, and its net-zero target for 2050 is substantiated with a clear commitment to reduce emissions across the value chain by at least 90% compared to 2022 levels.

Key developments over the past year: Since our previous analysis of adidas's climate strategy in April 2024 (NewClimate Institute, 2024b, pp. 104–105), adidas has published new short-term 2030 emission reduction targets and its 2050 net-zero target has been substantiated with a commitment to reduce emissions by at least 90%. adidas's 2024 annual sustainability reporting is now also aligned with the European Union's Corporate Sustainability Reporting Directive (CSRD) requirements. We have also added an analysis on progress made and transition targets.

adidas's 2030 emission reduction targets are aligned with sectoral benchmarks and are aligned with the lower-end of economy-wide targets. adidas commits to reducing its scope 1 and 2 emissions by 70% and scope 3 emissions by 42% by 2030 vs 2022 levels (adidas, 2024, p. 177). The target, which equates to a 42% reduction across all three scopes, is aligned with sectoral benchmarks and aligned with the lower-end of economy-wide decarbonisation benchmarks, if assuming that 2022 emissions are roughly the same as 2019 emissions (IPCC, 2022; Teske, 2022). adidas also commits to reducing the emissions intensity per product by 9% by 2025 compared to 2022 levels (adidas, 2024, p. 177). These new targets appear to represent an increase in adidas's climate ambition, are transparently communicated, and will be reached without purchasing carbon credits (adidas, 2024, p. 195). The Nuremberg-Fürth Regional Court ruled on March 25, 2025 that adidas was guilty of misleading advertising over its previous pledge to become 'climate neutral by 2050' and to reach climate neutrality for its own production sites by 2025 (DUH, 2025). adidas now commits to reaching net-zero emissions in its value-chain by 2050. This target is substantiated with a commitment to reduce emissions by at least 90% by 2050, without relying on carbon offsets (adidas, 2024, p. 182). adidas plans to neutralise the remaining 10% with permanent carbon dioxide removals (CDR) (adidas, 2024, p. 177). It does not specify what it means by 'permanent', although it will align with SBTi guidance on CDR (adidas, 2024, p. 177).

adidas plans to increase renewable energy and efficiency in its supply chain but does not set a target on increasing renewable electricity in tier 1 and 2 suppliers. The company specifies that its suppliers are encouraged to scale the use of renewable electricity 'wherever possible' by 2030 (adidas, 2024, p. 187). By 2030, adidas expects that renewable energy and energy efficiency measures will lead to an 18% emissions reduction compared to 2022, making it the most important component of its decarbonisation roadmap in the short-term (adidas, 2024, p. 183). adidas claims that suppliers participating in its Environmental Program sourced 24% of their electricity from renewable sources, either through on-site electricity generation, PPAs, or 'high-quality' EACs (adidas, 2024, p. 187). 7% of electricity used by key suppliers was sourced from rooftop solar PV systems (adidas, 2024, p. 187). It is not specified what is meant by 'high-quality' EACs, nor is it clear what share is meant by 'key suppliers'. adidas also explains how it is engaging on policies in its supplier countries to drive renewable energy policies (adidas, 2024, p. 187). Although adidas is taking measures to increase renewable electricity among its suppliers, the company could substantially increase the ambition and transparency of such measures. It could do so by committing to increase renewable electricity among tier 1 and 2 suppliers through high-integrity renewable procurement constructs and accompanying such a target with a commitment to electrify key manufacturing processes. adidas should also provide a breakdown of supplier usage by energy source.

adidas plans to replace coal boilers with fossil gas and biomass boilers and does not mention electrification of key manufacturing processes. By 2030, adidas expects that 6% emission reductions will be achieved through replacing coal with biomass and natural gas (adidas, 2024, p. 183).

Although we could no longer find adidas's commitment to phase out coal boilers in its tier 1 and 2 suppliers by 2025, the company states that it is replacing the use of coal boilers at all direct supplier facilities at Tier 1 and Tier 2 levels with what it calls 'low-carbon fuels' such as natural gas or biomass (adidas, 2024, p. 184). However, fossil gas produces GHG emissions from production, transport, and end-use, and methane leaks can be extensive, sometimes eliminating all climate benefits from switching from coal to natural gas (Hasanbeigi and Zuberi, 2022). The use of fossil gas boilers also locks in an emissions-intensive technology that is misaligned with reaching net-zero emissions, while other technologies such as electric boilers are commercially available (Hasanbeigi and Zuberi, 2022).

The company does not specify what type of biomass it will supply or how it will guarantee that the biomass sourced is sustainable and does not lead to deforestation. Due to land scarcity, environmental degradation and the GHG emissions associated with the production and transport of most forms of bioenergy, this should not be considered a sustainable alternative for processes that could be reasonably electrified (*see Methodology section 3.1.3).* Instead, adidas should help its suppliers electrify key manufacturing processes to increase energy efficiency and guarantee the long-term decarbonisation of its supply chain. At the end of 2024, more than half of 'targeted suppliers in the program' have transitioned to biomass or fossil gas boilers (adidas, 2024, p. 187). The transparency of adidas's coal phase-out would be increased if adidas were to communicate how many suppliers in its supply chain have transitioned away from coal-fired boilers.

adidas's new target to source 10% of its polyester for its products made from textile-to-textile recycling by 2030 marks a positive shift in adidas's fibre decarbonisation strategy. By 2030, adidas expects that 10% of its emission reductions will come from material innovation (adidas, 2024, p. 183). The company set out the ambition that 90% of its articles are sustainable by 2025 (adidas, 2024, p. 227). Products are considered sustainable when they contain a pre-defined amount of sustainable materials and 'when they show environmental benefits versus conventional articles due to the materials used, meaning that they are – to a significant degree – made with environmentally preferred materials' (adidas, 2024, p. 232). Definitions are provided for each material, but it remains unclear how using such materials will reduce the emissions from materials and fibres (adidas, 2024, p. 228).

adidas' claim that it is sourcing 99% recycled polyester based on recycled polyester made from plastic bottles as feedstock (adidas, 2024, p. 228). Using such waste sources is a form of downcycling and does not represent a credible measure to lower the fashion industry's climate impact, as it can divert plastic waste from other more appropriate waste recycling streams (Cobbing and Vicaire, 2017; Majumdar *et al.*, 2020). However, adidas has set a target to source 10% of its polyester volume using textile waste (mostly clothing and some other textiles) as a feedstock by 2030, also known as textile-to-textile recycling (adidas, 2024, p. 233). adidas plans for the first products to be made with textile-to-textile recycled polyester to be available in 2026. This is a promising shift in adidas's lower-carbon fibre strategy, as the target shows the company's commitment to stimulating demand for textile-to-textile recycling and could contribute to improving the economics and output quality of existing recycling technologies.

adidas's circularity strategy rests on recycling, and the company does not tackle the issues of clothing overproduction and waste. adidas's circularity strategy remains surface level. adidas is implementing circularity services but these have remained at the pilot project or early implementation phase (adidas, 2024, p. 230). For example, it only provided repair services at two of its stores in 2024 (adidas, 2024, p. 230). adidas also has a 'made to be remade' circularity project where it acknowledges the need to rethink recycling beyond shifting fibre input (adidas, 2024, p. 229). adidas mentions wanting to enhance its 'global guidance on circular services' for its market organisations in 2025 and is engaged in several projects at the EU level for advancing the circularity ecosystem (adidas, 2024, pp. 229–230). However, adidas does not expand on how it will significantly reorient its business model and scale circularity beyond individual projects, or how such projects reduce clothing overproduction (adidas, 2024, p. 230). The company focuses on quality and durability of its products, although it does not provide any information on how many wears an average product can be used for (adidas, 2024, p. 229). The company could set more tangible targets such as increasing material efficiency, increasing the share of revenue from rental, resale and repair business models, and reducing the volume of deadstock and unsold clothing.

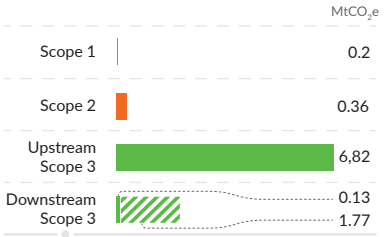
H&M Group

H&M Group's GHG targets are consistent with 1.5°C-compatible pathways for the fashion sector and are partially substantiated by transition measures for renewable energy sourcing, supplier decarbonisation and circularity, positioning the company ahead of its peers. However, the company still lacks a clear startegy and targets to electrify manufacturing processes, and to reduce overproduction and waste.

	TRANSPARENCY	INTEGRITY
	Reasonable	Moderate

1 TRACKING AND DISCLOSURE OF EMISSIONS

GHG emissions are reported annually, including a detailed scope 3 breakdown, but market-based accounting for scope 2 is used to calculate total emissions.



MAJOR EMISSION SOURCES

- Textile manufacturing (Tiers 1-3)
- Overproduction and waste
- Fibre and material extraction
- Transportation

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net zero by 2040.*

			TRANSPARENCY	INTEGRITY
Short term	56% by 2030	*Target to reduce scope 1, 2, and 3 by 56% below 2019 levels. This target is aligned with sectoral benchmarks.*		
Medium term	90% by 2040	*Target to reduce scope 1, 2 and 3 emissions by 90% below 2019 levels and neutralise residual emissions with permanent removals. This target is aligned with sectoral benchmarks.*		
Longer term	N/A	*No target identified.*	N/A	N/A

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Electrification of heat and manufacturing processes	*"H&M Group describes some measures to electrify key manufacturing processes in its supply chain and discusses challenges, but it does not commit to a specific target.*		
Renewable energy in the supply chain	*H&M Group targets a coal phaseout by 2026 and 100% renewable electricity by 2030 for all tier 1, 2, 3 suppliers, but lacks a fossil gas phaseout target. Unclear reliance on standalone RECs & biomass.*		
Reduce overproduction and slow growth in virgin product	*H&M Group outlines measures to reduce overproduction and waste (resale, repair, rental, reuse, recycling), but no target was identified.*		
Source low-carbon fibres	*H&M Group outlines targets to use 100% recycled or sustainably sourced materials by 2030; however, we could not assess the integrity of these efforts due to the lack of science-based benchmarks.*		?
Sustainable logistics and transport solutions	*While some implemented measures to reduce transport emissions are described, no specific targets have been identified.*		

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*H&M Group purchased carbon credits in Brazil through the LEAF Coalition, without making carbon neutrality claims, yet discloses minimal information beyond this.*		?
Support for durable carbon dioxide removals	*Supports durable CDR by signing deal with Climeworks and joined Frontier, supporting various forms of durable CDR to claim net zero in the future.*		

EMISSION TRENDS

✔ *Absolute emissions and the emissions intensity have reduced in recent years, and seem roughly on track towards the company's targets.*

TRANSITION PROGRESS

?

✔ *H&M is phasing out coal in its supply chain (from 46 sites using coal in 2023 to 27 in 2024, a ~40% reduction) and claiums to have increased renewable electricity use to 36% in 2024 for its garment production supply chain, supported through a collaborative financing effort with other fashion brands. Data on other transitions is unclear, or benchmarking is not possible.*

?

?

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- \+ Right direction, off track
- ✖ Well off track
- ⮌ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *H&M Group 2023, 2024a, 2024b, 2024c, 2024d, 2025a, 2025b, 20ß25c, 2025d, 2025e.*

H&M Group

H&M Group is a Sweden-based fast fashion retailer that comprises nine brands, selling clothing alongside non-garment products such as cosmetics, accessories, footwear, and homeware. Around 60% of H&M Group's emissions originate from fabric production, garment manufacturing and raw materials. H&M Group's GHG targets are consistent with 1.5°C-compatible pathways for the fashion sector and are partially substantiated by transition measures for renewable energy sourcing, supplier decarbonisation and circularity, positioning the company ahead of its peers. However, the company still lacks a clear strategy and targets to electrify manufacturing processes, and to reduce overproduction and waste.

Key developments over the past year: We have identified transparency improvements since the previous analysis was published in April 2024 (NewClimate Institute, 2024b, pp. 108–109). In its latest disclosure, for example, the company published detailed data on fuel and electricity use across its supply chain, as well as detailed targets and progress toward sourcing recycled or sustainably sourced materials.

H&M Group's net-zero target for 2040 is substantiated with emissions reduction targets that closely align with 1.5°C-compatible pathways for the apparel sector. The company has set an SBTi-validated target to reduce emissions across its value chain by 56% by 2030 and 90% by 2040 from a 2019 baseline, with the remaining 10% to be neutralised through permanent carbon dioxide removals (H&M Group, 2025a, p. 60). This ambition level is consistent with the global benchmark for a 1.5°C-compatible emission reduction trajectory, provided the targets are backed by real and rapid transition measures. Overall, there has been a downward trend in both absolute emissions and emissions intensity over the past five years (H&M Group, 2025a, pp. 64–65). Based on its recent emissions trend, H&M Group appears nearly on track to meet its 2030 milestone and on a consistent trajectory toward meeting its 2040 target. However, the true ambition level of H&M Group's targets ultimately depends on the measures used to achieve them. We see signals of continued reliance on false solutions, including the use of fossil gas, biomass, and standalone RECs (H&M Group, 2024a, 2025d, p. 4,6,8), raising concerns that this may potentially undermine the integrity of H&M Group's climate commitments and its reported emissions reduction progress.

H&M Group has committed to sourcing 100% renewable electricity across its tier 1, 2, and 3 suppliers by 2030, however electricity represents a small share of its supply chain energy use. H&M also commits to phasing out on-site coal use by 2026 (H&M Group, 2025e, p. 9)**.** Progress towards these targets includes reducing the number of supplier sites using coal from 46 in 2023 to 27 in 2024, banning new suppliers with coal boilers since 2022, and reaching 36% renewable electricity use in garment production in 2024 (H&M Group, 2023, p. 42, 2025d, p. 7, 2025a, p. 60,66). The company provides detailed and transparent data on fuel and electricity use across its supply chain and acknowledges electrification challenges (H&M Group, 2025d). However, the impact of its renewable electricity target is undermined by the lack of commitment to electrify key manufacturing processes, which still rely heavily on fossil gas and, to certain extent, biomass as transitional fuels—neither of which is a sustainable alternative for processes that could be electrified. Most manufacturing processes in the fashion supply chain require relatively low temperatures, presenting a clear opportunity for full electrification (Hasanbeigi et al., 2024). This transition can be accelerated by switching to alternative technologies like waterless or electrified dyeing and dry processing, which use electric boilers and heat pumps (Fashion Revolution, 2024, p. 58). We identify no commitment to electrify these key manufacturing processes.

On a more positive note, H&M Group addresses supplier decarbonisation barriers, such as limited expertise and access to affordable capital, through its Green Fashion Initiative. As of 2024, the initiative has supported 23 projects (solar PV, energy efficiency, coal phase-out, and electrification) by providing technical support and favourable financing, offering financing that was not debt-based, and having ROIs evaluated based on emissions reductions rather than financial gain (Stand.earth, 2024, p. 8; H&M Group, 2025a, pp. 61–62). It also collaborates with other fashion brands through the Future Supplier Initiative, that co-invests in shared supplier decarbonisation efforts (H&M Group, 2025c). Furthermore, H&M advocates for supportive policies in Southeast Asian manufacturing hubs (e.g., Vietnam, Bangladesh, Indonesia), promoting PPAs and improved grid access (H&M Group, 2024b, p. 11, 2025a, p. 62). This can be considered good practice for enabling renewable energy uptake in challenging regulatory environments. Despite these measures, H&M does not provide detailed information on the procurement constructs used to reach its supply chain renewable energy target.

H&M Group's claim of using almost 100% renewable electricity in its own operations is currently largely based on standalone RECs, though the company is beginning to shift its focus to higher quality constructs and is piloting a 24/7 matching approach. In 2024, 20% of H&M Group's renewable electricity was obtained through PPAs with new solar or wind projects, doubled from 2023 (H&M Group, 2025e, p. 11). The reported 96% renewable electricity use still relies heavily on the procurement of standalone RECs, which in some cases are purchased in one country and used in another (H&M Group, 2025b, pp. 147–325, 2025e, p. 11). Standalone RECs that are not bundled with the actual procurement of renewable electricity are unlikely to support additional renewable energy capacity and decarbonisation of the grid in many regions, including in Europe, where most of H&M Group's operations are located (NewClimate Institute, 2024c, p. 50). In 2024, H&M group complemented its existing renewables target by committing that by 2030, at least half of the renewable electricity procured for its own operations should come from PPAs with new renewable electricity generation (H&M Group, 2025a, p. 60). H&M Group also reports that it has started to pilot a 24/7 matching approach, for renewable electricity procurement (H&M Group, 2025d, p. 2). Scaling up such pilot efforts would position H&M Group as an industry leader on this transition: commitments to match renewable electricity on a local and hourly basis are considerably more ambitious and constructive for addressing the significant challenges of decarbonising electricity systems (NewClimate Institute, 2024a).

H&M Group has made visible progress in circularity and material sustainability, yet its climate strategy still lacks a target to reduce overproduction and product waste. The company aims to use 100% recycled or sustainably sourced materials by 2030, working to align with the Textile Exchange definition of 'preferred materials' (H&M Group, 2024d). H&M Group has expanded its resale, repair, and rental services, with resale now available in 38 stores across 26 markets, contributing to 0.6% of group turnover (H&M Group, 2025a, p. 78). While 0.6% remains a small share, it represents a doubling from the previous year, and the disclosure of this figure sets H&M Group apart from many peers in terms of transparency. The company launched second-hand platforms such as Sellpy, COS Resell, H&M Preloved, and ARKET ARCHIVE, and partnered with Looper Textile Co. to improve collection and sorting infrastructure (H&M Group, 2025a, p. 24,32). Beyond operational measures, the company is scaling circular design and investing in material innovations, including lab-grown cotton and textile-to-textile polyester recycling (H&M Group, 2025a, p. 74).

Despite these efforts, H&M Group has not set a target to reduce production volumes. Its long-term goal of 10% annual sales growth raises concerns about the alignment with its circularity mission (H&M Group, 2025a, p. 113), unless driven by higher-value rather than higher-volume sales. Furthermore, while the volume of material use, detailed targets, and progress of sourcing each material are transparently reported (H&M Group, 2025a, pp. 76–78), H&M Group does not disclose the volume of deadstock and provides only limited information on how unsold products are managed or disposed of. Further clarity is also needed on how these initiatives will lead to absolute reductions in production volumes, resource intensity, and emissions footprint. H&M Group's transparency and ongoing investments in shifting towards a circular fashion model stand out as comparatively advanced among its peers; the company demonstrates good practice in reporting the transition underway. However, the absence of clear industry guidance on sustainable fibre pathways and circularity limits progress at the sectoral level.

H&M Group provides climate contributions by purchasing forest carbon credits and supports durable CDR solutions to neutralise its residual emissions. Through the LEAF Coalition, H&M Group provides financial support to REDD+ programs aimed at reducing deforestation in Brazilian Pará state (H&M Group, 2025a, p. 63). However, we could not identify its exact financial contribution beyond being part of the coalition's collective USD 180 million commitment and >4 million credit purchase (LEAF Coalition, 2024). The company states that it does *not* claim carbon neutrality based on the purchase of these carbon credits (H&M Group, 2025a, p. 63, 2025e, p. 11). In addition, H&M Group supports permanent CDR by signing multi-year agreements for 10,000 tCO_2 removal with Climeworks for the removal of 10,000 tCO_2 via DACCS, and by participating in Frontier, an advance market commitment to scale durable CDR (H&M Group, 2025a, p. 63). Again, we could not identify H&M Group-specific financial contributions to Frontier aside from the number of offtake agreements signed. The company correctly acknowledges that tree-planting and regenerative agriculture, while important, should not be used to support net-zero claims due to their non-permanence risks (H&M Group, 2024b, p. 13).

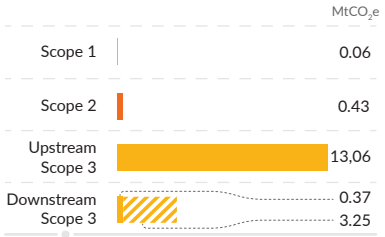
Inditex

In 2023, **Inditex** set new GHG targets which appear to be aligned with 1.5°C benchmarks for the sector, and has also set a target for renewable electricity in the supply chain. But Inditex fails to underpin these targets with other key measures needed to reach net zero by 2040, such as electrifying manufacturing processes and reducing overproduction.

TRANSPARENCY	INTEGRITY
Reasonable	Moderate

1 TRACKING AND DISCLOSURE OF EMISSIONS

Public disclosure of current and historical emissions, but information is scattered and no breakdown for scope 3 emissions by scope. Updated Climate Transition Plan provides different 2022 emissions from previously reported data.



MAJOR EMISSION SOURCES

- Textile manufacturing (Tiers 1-3)
- Overproduction and waste
- Fibre and material extraction
- Transportation
- Procurement of renewable electricity for own operated factories

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net zero emissions by 2040*

			TRANSPARENCY	INTEGRITY
Short term	48-53% by 2030	*Targets to reduce scope 1 and 2 emissions by 95% and scope 3 emissions by 51% below 2018 levels by 2030. These targets are aligned with sectoral benchmarks.*	●	●
Medium term	83-88% by 2040	*Targets to scope 1 and 2 emissions by 95% and scope 3 emissions by 90% below 2018 levels by 2040. These targets are aligned with sectoral benchmarks, but no interim target was identified.*	◕	◕
Longer term	N/A	*No target identified.*	N/A	N/A

EMISSION TRENDS

\+ *Absolute emissions have only slightly decreased since 2019 and have not changed between 2023 and 2024.*

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY	TRANSITION PROGRESS
Electrification of heat and manufacturing processes	*Inditex acknowledges the need for electrification but we identified no targets or measures.*	◔	○	?
Renewable energy in the supply chain	*50% by 2030 and 100% by 2040 renewable electricity in supply chain manufacturing processes. The target is somewhat undermined by accounting caveats.*	◕	◑	?
Reduce overproduction and slow growth in virgin product	*Inditex introduces some circularity measures, but no targets or measures against overproduction identified.*	◔	◔	?
Source low-carbon fibres	*Several targets for lower-impact fibres in the short term. No assessment due to a lack of benchmarks.*	◕	?	?
Sustainable logistics and transport solutions	*Target of 90% of alternative fuels in maritime transport by 2025. No targets for other means of transport and little update on progress.*	◑	◔	?
Renewable energy in own factories	*By 2027, 40% and by 2030, 60% of electricity consumption will come from self consumption and PPAs.*	◑	◑	+

TRANSITION PROGRESS

We could not identify transparent data to assess progress on key transitions, or benchmarks are not available to evaluate progress.

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*Inditex makes modest investments in forest restoration for an unclear combination of both neutralisation claims and beyond value chain mitigation claims.*	◑	◔
Support for durable carbon dioxide removals	*No support for durable CDR identified.*	○	○

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- \+ Right direction, off track
- ✖ Well off track
- ↩ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *Inditex 2024a, 2024b, 2025.*

Inditex

Industria de Diseño Textil S.A. (Inditex) is a Spanish-based multinational fashion retailer better known for its flagship brand Zara. It is the biggest fast fashion group in the world by revenue, with USD 38.6 billion in 2024. Most of its emissions stem from its supply chain, raw material extraction, garment production and transport. In 2023, Inditex set new GHG targets which appear to be aligned with 1.5°C benchmarks for the sector, and has also set a target for renewable electricity in the supply chain. But Inditex fails to underpin these targets with other key measures needed to reach net zero by 2040, such as electrifying manufacturing processes and reducing overproduction.

Key developments over the past year: Since our previous analysis in April 2024, Inditex changed its emission accounting methodology to include more granular data (NewClimate Institute, 2024b). However, it does not disclose updated estimates for years between 2018 and 2023. In terms of its targets, Inditex has made significant improvements to its own emission reduction targets and has set new renewable electricity procurement targets for its own electricity and its supply chain.

Inditex's emission reduction targets remain aligned with benchmarks for the fashion sector to limit global warming to 1.5°C. The company's 2030 target amounts to a 48–53% emissions reduction below 2019 levels, which is likely aligned with global efforts to limit global warming to 1.5°C. Its target for scope 3 emissions excludes emissions from capital goods and transportation and downstream distribution of its products (Inditex, 2025). Inditex states that it still needs to estimate and disclose the latter. In the long term, Inditex's net-zero target for 2040 represents an 83–88% emission reduction by 2040 compared to 2019 levels. This also remains in line with 1.5°C-compatible sector-specific benchmarks. Inditex could add location-based emissions targets for further integrity on top of its market-based emissions targets. Compared to 2023, Inditex now added scope 1 and 2 emissions to its interim target of 20% emission reduction by 2027, making it more ambitious (Inditex, 2025).

Due to the limited disclosure of historical emissions data, it remains unclear whether Inditex is on track to meet its 2030 targets. In 2024, Inditex changed its emissions accounting methodology to include emissions from its e-commerce distribution centres and fuel consumption of its stores (Inditex, 2025, p. 344). While including more granular emissions is a positive development, full transparency around the change in methodology and its implications on historical emissions estimates is critical. Inditex currently only discloses 2024, 2023 and 2018 emissions data using the new accounting methodology. Inditex further decided against disclosing emissions from third-party leased assets, as they are 'immaterial' (Inditex, 2025, p. 346). To further enhance transparency, Inditex could disclose those emissions in the future.

It is unclear whether Inditex's current measures will be sufficient to achieve its GHG reduction targets. Inditex has set seemingly ambitious emission reduction targets for 2027, 2030 and 2040. Reaching them successfully will depend on implementing sector-specific transitions, particularly in its supply chain. These key transitions include electrifying manufacturing processes, switching from fossil to renewable electricity through power purchasing agreements, reducing overproduction, and sourcing sustainable materials. Inditex has a dedicated website outlining detailed options and costs for suppliers to reduce their emissions (Inditex, 2024b). As of 2025, wet-process manufacturers in the supply chain need to lay out transition plans that include annual emission reductions of 4.2% (Inditex, 2025, p. 160) However, detailed measures and estimates of their emission reduction potential are lacking in Inditex's sustainability report to understand how the company could reach its targets.

The lack of targets and measures to electrify manufacturing processes undermines Inditex's transition plan. Moving away from fossil-powered heat and steam and switching to renewable electricity in the supply chain is critical in decarbonising the fashion industry (Berg *et al.*, 2020; Ley *et al.*, 2021; Sadowski *et al.*, 2021). While Inditex acknowledges the need for electrification, we could not identify any quantitative estimates on electricity consumption within the supply chain or any measures to electrify manufacturing processes. While Inditex plans to phase out coal from its supply chain by 2030, it lists bioenergy as one of several solutions among its 'Best available technologies and measures to reduce environmental impacts' (Inditex, 2024c, 2024b, 2025). If it does so for processes that could be electrified, this could significantly undermine the significance of any supply chain renewable electricity targets. An increasing demand for bioenergy risks biodiversity loss, water pollution, land conflicts and rising GHG emissions *(see Methodology)*. Most manufacturing processes in the fashion supply chain require relatively low temperatures, presenting a clear opportunity for full electrification (Hasanbeigi *et al.*, 2024).

Inditex aims for 50% of the electricity used in its manufacturing processes to come from renewable sources in 2030 and 100% by 2040, however, the integrity of the target is unclear due to limited information on its supply chain energy mix. While Inditex's target to increase renewable electricity in its supply chain (Inditex, 2025, p. 146) marks a positive shift in Inditex's climate strategy, the lack of details leaves open the possibility that fulfilment of the target might be claimed through the procurement of standalone RECs. Procuring standalone RECs, as opposed to supporting suppliers to put in place higher quality renewable electricity procurement constructs, would have a limited impact on reducing supply chain emissions. Moreover, this target is not accompanied by a target to electrify manufacturing process and Inditex does not report on the rate of electrification in the supply chain. Therefore, the relevance of this target in the context of the broader supply chain energy balance remains unclear. The company should increase the transparency of its supply chain energy use to enable a better understanding of the integrity of its supply chain renewable electricity target.

Inditex's deep decarbonisation targets would require it to move away from a quantity-focused fast fashion business model. The company stops short of estimating what achieving its climate targets will mean for its business volume and resource use. The amount of raw material used in its products has been increasing at an average annual rate of 5% since 2022 and compared to 2023, emissions from transport and distribution have increased by 10% in 2024 (Inditex, 2025). Given that many sector emissions, such as those from the extraction of raw materials, are hard to reduce, switching to a less resource-intensive production model becomes inevitable if emissions are to be reduced to net zero by 2040.

According to Inditex, switching to lower-impact fibres has cut its emissions considerably. The company claims it has reduced 21% of emissions from raw material extraction between 2018 and 2024 (Inditex, 2025, p. 166). However, the lack of available benchmarks complicates the assessment of such progress. Inditex set several targets and measures to reduce emissions from raw materials sourcing, including switching to organic fibres or fibres from regenerative agriculture (Inditex, 2025, p. 200). The company also invests in start-ups for lab-grown cotton and recycled fibres (Inditex, 2025, p. 13). Inditex pledges that by 2030, 100% of its textile fibres should be lower impact. Currently the share amounts to 73% (Inditex, 2025, p. 200). However, it remains unclear how many emissions the use of those fibres would reduce by 2030.

Inditex plans to move away from fossil-based electricity in its own production locations and other buildings. Inditex needs electricity to operate its own headquarters, offices, distribution centres and nine own factories. Even though the footprint of these facilities accounts for only 4% of Inditex's footprint, Inditex has direct control over these emissions (Inditex, 2025, p. 166). It claims to have procured 100% renewable electricity for those facilities since 2022 (Inditex, 2025, p. 72). However, Inditex procured this renewable electricity primarily through Renewable Energy Certificates (RECs), of which 67% were unbundled (Inditex, 2025). Such standalone RECs do not generally contribute to additional renewable capacity in the grid (NewClimate Institute, 2024c, p. 4). Moreover, it remains unclear when the electricity for those RECs was produced. Instead of relying on RECs, Inditex's new target aims for 40% of its electricity consumption in 2027 to come from its own renewables and (virtual) power purchasing agreements (vPPAs and PPAs) (Inditex, 2025). By 2030, the share will increase to 60%. As of 2025, Inditex has vPPAs in place worth 136 MW capacity for the coming 10–12 years (Inditex, 2025, p. 158). We estimate they could cover up to a third of Inditex's own energy consumption in 2025. This is a positive development, as PPAs are more likely to help increase renewable capacity in a grid.

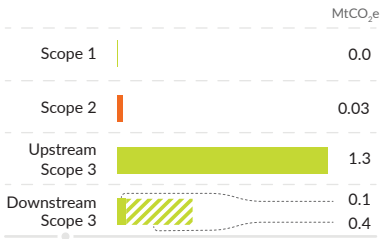
lululemon

lululemon's net-zero target is undermined by a lack of meaningful short- and medium-term GHG emission reduction targets. The company has set a target for renewable electricity in the supply chain but falls short on commitments for other key transitions, such as the electrification of manufacturing processes.

TRANSPARENCY	INTEGRITY
Moderate	Poor

1 TRACKING AND DISCLOSURE OF EMISSIONS

Public disclosure of current and historical emissions, but no breakdown for previous years.



MAJOR EMISSION SOURCES

- Textile manufacturing (Tiers 1-3)
- Overproduction and waste
- Fibre and material extraction
- Transportation

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net zero emissions by 2050*

			TRANSPARENCY	INTEGRITY
Short term	Unclear	*Target to reduce profit-based economic emissions intensity of scope 3 emissions by 60% by 2030. This target has limited meaning due to volatility of profit fluctuations, and would allow emissions to increase.*	●	◔
Medium term	N/A	*No target identified.*	◌	◌
Longer term	90% by 2050	*2050 net-zero target is implicitly substantiated in a footnote with a minimum 90% emission reduction commitment.*	◔	◔

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Electrification of heat and manufacturing processes	*No commitment to electrify key manufacturing processes.*	◌	◌
Renewable energy in the supply chain	*Commits to 25% RE in key tier 1 and 2 suppliers by 2025 and 50% by 2030. lululemon aims to prioritise the use of high integrity procurement constructs, but will also use standalone RECs towards its target.*	◔	◑
Reduce overproduction and slow growth in virgin product	*lululemon acknowledges the general issue of overproduction, but does not commit to reduce this. The company implements some circularity measures. Integrity evalouation not possible due to lack of available benchmarks.*	◑	◔
Source low-carbon fibres	*Target to source 100% products containing preferred materials by 2030 is transparent and broken down by fibre, but it cannot be evaluated due to lack of benchmarks.*	◔	?
Sustainable logistics and transport solutions	*lululemon presents measures to decarbonise freight, but no clear target or commitment.*	◑	◔

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*No climate contributions beyond the value chain could be identified.*	◌	◌
Support for durable carbon dioxide removals	*No support for durable CDR identified.*	◌	◌

EMISSION TRENDS

✖ *Reported reductions in emissions intensity are driven by increasing revenues. Absolute emissions have plateaued and are not decreasing.*

TRANSITION PROGRESS

?

✖ *lululemon is increasing its share of renewable electricity in its supply chain but only reached 14% renewable electricity in 2023, which remains lower than the grid renewable share in several key manufacturing countries. Data on other transitions is unclear. There are no decarbonisation benchmarks to evaluate lululemon's progress for fibres and materials.*

?

?

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- ✚ Right direction, off track
- ✖ Well off track
- ⮌ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: lululemon 2022, 2024a, 2024b, 2025.

lululemon

lululemon athletica (lululemon), headquartered in Canada, is a sportswear and activewear brand. Around 70% of its emissions stem from the extraction of textile fibres and the manufacturing and assembly of clothing and shoes (all scope 3, category 1). lululemon is implementing some key measures to decarbonise its supply chain, including increasing the use of renewables, but does not specify if it will electrify key manufacturing processes. lululemon's net-zero target is undermined by a lack of meaningful short- and medium-term GHG emission reduction targets, which makes it difficult to understand how the company intends to achieve deep emission reductions by 2050. The company's 2030 emissions intensity reduction target allows it to continue increasing its emissions.

Key developments over the past year: Since the previous analysis of lululemon's renewable electricity targets and strategy in 2024 (NewClimate Institute, 2024c, pp. 53–54), lululemon has committed to increasing the share of renewable electricity in its supply chain. It has also updated its scope 3 emissions intensity reduction target from an intensity per revenue to intensity per unit of gross profit target to align with SBTi requirements, which further worsens the poor clarity of that target.

lululemon's 2050 net-zero target is undermined by a lack of meaningful short and medium-term GHG emission reduction targets. We understand that lululemon's net-zero target is accompanied by the commitment to reduce emissions across the value chain by 90%, although this could be made more explicit by being clearly presented alongside its net-zero target (lululemon, 2024a, p. 37). lululemon plans to neutralise the remaining 10% with permanent carbon dioxide removals (CDR) (lululemon, 2024a, p. 37). Although it does not specify what it means by 'permanent', although it will align with SBTi guidance on CDR (lululemon, 2024a, p. 37). This commitment is aligned with global economy-wide benchmarks to keep warming below 1.5 °C (IPCC, 2022).

In the interim, lululemon commits to reduce its scope 1 and 2 absolute emissions by 60% and to reduce part of its value chain emissions intensity, which is measured as emissions per unit of gross profit, by 60% by 2030, both compared to 2018 levels (lululemon, 2024a, pp. 34–35). This target has significant limitations, even though the SBTi validated it as a 'well-below 2°C' target (lululemon, 2024a, p. 37). Evaluating the ambition of lululemon's intensity target is complicated, as the intensity target is relative to the company's profit, which may be highly volatile. lululemon could claim progress in decarbonising its business if it increases profit and keeps emissions flat, or if profit increases more than emissions in a certain year. The intensity target translates to a 44% reduction compared to 2018 if accounting for all lululemon's scope 3 emissions and could allow lululemon to increase emissions against its baseline.

While lululemon's emissions intensity per unit of revenue have decreased slightly since 2020, its absolute emissions have more than doubled since 2019. Although it is a good sign that lululemon is making progress on emissions per unit of revenue, a continued increase in absolute emissions is not aligned with 1.5°C-compatible benchmarks for the sector or cross-sector benchmarks (Teske, 2022, pp. 322, 327). lululemon notes that 'it is difficult to decrease absolute emissions across Scope 3 while executing business growth' (lululemon, 2024a, p. 35). In 2023, however, emissions from almost all scope 3 categories increased despite the company affirming that it decreased production volumes (lululemon, 2024a, p. 35). Only emissions from upstream transportation decreased in 2023, due to reduced air freight usage. The true ambition level of lululemon's targets depends on the measures used to achieve them and to reduce absolute emissions.

lululemon has committed to increasing renewable electricity among core tier 1 and 2 suppliers to 25% by 2025 and 50% by 2030 , although the integrity of the target is unclear due to limited information on its supply chain energy mix (lululemon, 2024a, p. 38, 2025). This renewable electricity target for the supply chain marks a positive shift in lululemon's sustainability strategy, although the target could be made stronger by an additional commitment to electrify key tier 1 and 2 manufacturing processes. lululemon discloses annual progress on its target, reporting that in 2023, 14% of the electricity used by core tier 1 and 2 suppliers was renewable (lululemon, 2024a, p. 38). lululemon specifies that it will prioritise higher integrity renewable energy procurement constructs such as onsite solar and power purchase agreements (PPAs), but does not go as far as to rule out the use of standalone Renewable Energy Certificates (RECs) (lululemon, 2025), which may not have a significant climate impact *(see Methodology section 3.1.2)*. Also, the company does not disclose information on total supply chain energy and electricity demand, so the relevance of this target in the context of the broader supply chain energy balance remains unclear. lululemon presents several measures to help suppliers transition to renewable electricity. These include collaborating with suppliers, contributing to the Fashion Climate Fund, and requiring suppliers to set emission reduction targets and report to CDP (lululemon, 2024a, p. 38). lululemon joined the Asia Clean Energy Coalition to advance renewable electricity policies in the region and is assessing where it can leverage PPAs (lululemon, 2024a, p. 38). However, much of the energy consumption in the clothing manufacturing process typically derives from other energy carriers. We identified no commitment to shift to non-combustible sources of renewable power (e.g. wind, solar, hydro, and geothermal), but only to 'phase out on-site coal boilers, and invest in manufacturing innovation' (lululemon, 2024a, p. 36). lululemon does not report on progress against its coal phase-out commitment, but highlights that it is engaging with suppliers to help them establish roadmaps to phase out existing coal boilers by 2030 (lululemon, 2024a, p. 39).

lululemon is beginning to address some key transition measures, especially fibre sustainability, however more detailed information is needed to understand their likely emission reduction impact. lululemon places a heavy emphasis on sustainable fibre and material procurement for products and packaging, which accounts for around a quarter of its total emissions (lululemon, 2024a, p. 47). lululemon has committed to increasing procured products containing 'preferred' materials and breaks down targets and progress against this target for each fibre, but does not explain how this will reduce emissions (lululemon, 2024a, pp. 43–46). Although lululemon claims it is sourcing more recycled polyester and nylon, it is using plastic bottles and oceanic waste as feedstock for its recycled materials (lululemon, 2024a, pp. 44–45). Using such waste sources is a form of downcycling and is not a credible measure to lower the fashion industry's climate impact, as it can divert plastic waste from other more appropriate waste recycling streams (Cobbing and Vicaire, 2017; Majumdar *et al.*, 2020). lululemon has recently signed a 10-year offtake agreement with a recycling startup to source recycled materials using textiles as feedstock (Samsara Eco, 2025). The agreement could lead to increasing lululemon's share of fibres originating from textile-to-textile recycling to approximately 20% according to the company (Samsara Eco, 2025).

lululemon presents its efforts to make its supply chain more circular but does not explicitly commit to reducing overproduction of clothing. lululemon aims to have 100% of its North American stores offer product take-back programs by 2025 and is rolling out repair programs in most of its stores in Mainland China and Europe (lululemon, 2024a, p. 47). lululemon also reports that 90% of its excess products and damages were resold, donated, recycled or downcycled in 2023 (lululemon, 2024a, p. 49). The company also commits to equip 100% of its products with 'end-of-use solutions' by 2030, meaning it will implement the infrastructure to collect, sort, and recycle products at scale once they are no longer in use (lululemon, 2024a, pp. 43, 72). Although it is encouraging that lululemon is moving towards a circularity approach and looking to extend product use, the company could set more tangible target such as increasing material efficiency, increasing the share of revenue from rental, resale and repair business models, and reducing the volume of deadstock and unsold clothing. Given recent investigations into the limits of in-store clothing take-back programmes (Changing Markets Foundation, 2023), lululemon could also provide more information on what happens to the used clothing it collects. lululemon used to disclose production volumes in its sustainability report (lululemon, 2023, p. 57), but no longer does in its 2023 report.

Due to reduced air freight usage, emissions from transport and logistics decreased between 2022 and 2023, but still account for around 15% of total emissions (lululemon, 2024a, p. 40). The company reports it is replacing air freight with ocean shipping and lower-carbon transportation options such as electric vehicles. lululemon does not report a modal split for transport use. The company also joined the Sustainable Aviation Buyers Alliance (SABA), and the Zero Emission Maritime Buyers Alliance (ZEMBA) to accelerate the development of lower-carbon fuels but does not commit to purchasing such fuels.

lululemon's claim that it procures 100% renewable electricity to power its operations is based on a mixture of high- and low-quality procurement methods and is undermined by the matching method. lululemon reached its target to source 100% renewable electricity to power its owned and operated facilities in 2021 (lululemon, 2024a, p. 40). While lululemon recently expanded its VPPAs to improve its renewable electricity procurement strategy, the company continues to account renewable electricity shared with annual rather than hourly matching. In 2023, lululemon procured PPAs and VPPAs to cover roughly half of its electricity consumption, while electricity from unbundled RECs was used to cover 40% of its electricity consumption (lululemon, 2024b). In its 2021 Impact Report, lululemon stated its intention to transition from standalone RECs to PPAs (lululemon, 2022, p. 42). In 2021, as a start of this transition, the company signed its first VPPA for a wind farm in Texas that came online in May 2022 (lululemon, 2023, p. 53). Given that PPAs are generally more likely to contribute to additional renewable capacity, the shift to VPPAs likely represents an improvement of lululemon's renewable electricity strategy. lululemon indicates in its latest report that it is also exploring a solar array for a site in the United States (lululemon, 2024a, p. 40). However, without further details, it remains uncertain whether the VPPAs that lululemon signs really lead to additional capacity and contribute to grid decarbonisation on the grids where lululemon consumes electricity.

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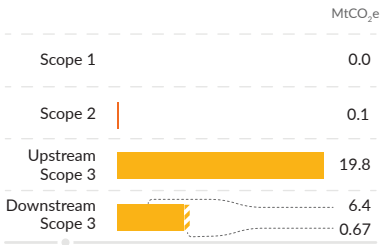
Shein

Shein's 2030 emission reduction target is completely misaligned with global emission reduction benchmarks, allowing its absolute emissions to reach more than double 2021 levels by 2030. Shein's business model for low prices and large production volumes is misaligned with the shift needed to put the fashion sector on a 1.5°C-compatible trajectory. We did not identify meaningful measures aimed reducing Shein's climate impact.

	TRANSPARENCY	INTEGRITY
	Poor	Very poor

1 TRACKING AND DISCLOSURE OF EMISSIONS

Shein reports on the main emission sources in scope 3, but we could not identify historical data prior to 2023.



MAJOR EMISSION SOURCES

- Textile manufacturing (Tiers 1-3)
- Overproduction and waste
- Fibre and material extraction
- Transportation

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net zero by 2050*

			TRANSPARENCY	INTEGRITY
Short term	**+128%** by 2030 (from 2021 levels)	*Reduce scope 1 and 2 by 42% and scope 3 by 25% by 2030 below 2023 levels. These targets translate to an overall reduction of 25% between 2023-2030, which is misaligned with sectoral benchmarks and would allow Shein to more than double its emissions compared to 2021.*		
Medium term	**N/A**	*No target identified.*		
Longer term	**79%** by 2050 (from 2021 levels)	*Shein commits to reducing emissions across the value chain by 90% below 2023 levels by 2050, alongside its net-zero target. This translates to a reduction of 79% below 2021 levels. This does not reflect the deep emission reduction levels that 'net zero' implies.*		

EMISSION TRENDS

Shein's emissions have significantly increased in recent years. The company claims to have achieved emission reductions but its emissions disclosure shows otherwise.

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY	TRANSITION PROGRESS
Electrification of heat and manufacturing processes	*No acknowledgement of the need to electrify manufacturing processes, and no targets identified.*			?
Renewable energy in the supply chain	*Shein reports some measures to support renewable electricity in the supply chain, but we identified no targets.*			?
Reduce overproduction and slow growth in virgin product	*Shein reports that its on-demand business model and online resale platform lead to less overproduction. No targets or measures identified to move away from the ultra fast fashion business model.*			?
Source low-carbon fibres	*Target to use 30% recycled polyester by 2030. The mitigation potential of this target remains unclear and its integrity cannot be evaluated due to lack of available benchmarks.*		?	?
Sustainable logistics and transport solutions	*Shein reports some plans to reduce downstream emissions from transportation, but no targets identified.*			?

Insufficient data is available to assess progress for these key transitions, especially in the context of Shein's ultra-fast fashion business model.

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*No climate contributions identified.*		
Support for durable carbon dioxide removals	*No support for durable CDR identified.*		

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- ✚ Right direction, off track
- ✖ Well off track
- ⮌ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *Shein 2023, 2024, 2025a, 2025b, 2025c, 2025d.*

Shein

Shein, headquartered in Singapore, is an e-retailer specialising in ultra-fast fashion. Over 40% of its reported emissions stem from manufacturing clothes and electronical devices, more than 30% from transportation and distribution, and 20% from consumers' use of Shein products. Shein's 2030 emission reduction target is completely misaligned with global emission reduction benchmarks, allowing its absolute emissions to reach more than double 2021 levels by 2030. Shein's business model for low prices and large production volumes is misaligned with the shift needed to put the fashion sector on a 1.5°C-compatible trajectory. Shein sends a large share of its products directly to end consumers via air cargo, resulting in significantly higher transport emissions than for the average fashion retailer. We did not identify meaningful measures aimed reducing Shein's climate impact.

Shein's emissions more than tripled between 2021 and 2024, and the company's 2030 targets are insufficient to bring the company on a Paris-aligned trajectory. Shein recorded exponential growth over the past six years. The e-retailer does not publish global financial results, but its revenue is estimated to have increased from USD 4 billion in 2019 to USD 38 billion in 2024 (Reid, 2024; Reuters, 2025). With the increase in revenue, Shein also saw a massive increase in GHG emissions across the value chain. Between 2021 and 2024 emissions more than tripled (Shein, 2025a, p. 47). Shein committed to reduce its scope 1 and 2 emissions by 42% and scope 3 emissions by 25% by 2030, compared to 2023 levels (Shein, 2025a, p. 46, 2025c). This scope 3 target does not cover direct use phase emissions, which accounted for a fifth of Shein's GHG footprint in 2024 (Shein, 2025a, p. 46,47). Given the very small share of scope 1 and 2 emissions in Shein's GHG footprint and the exclusion of a substantial emissions source, the targets together translate to a reduction of 22% across the value chain below 2023 levels. Achieving this will be a challenge considering the exponential revenue and emissions increase in recent years. Even if Shein were to achieve this target, the company would fall short of the ambition necessary at the global level. Reducing emissions by 22% from 2023 levels means that Shein more than doubles its emissions between 2021 and 2030, whereas global emissions need to be halved in this period (IPCC, 2022).

Shein's climate strategy is untransparent and lacks detail, which makes it difficult to assess the integrity of disclosed data and proposed measures. Shein discloses detailed emissions data for 2023 and 2024, while data over 2022 and 2021 is less comprehensive (Shein, 2023, p. 48, 2024, p. 31, 2025a, p. 47). We identified no emissions data for earlier years. Raw material extraction and manufacturing of fabrics and final products account for 44% of Shein's emissions, while transportation of parcels to end consumers accounts for 33% and direct use phase emissions for 20% (Shein, 2025a, p. 52). Shein does not provide a breakdown of emission per tier and modes of transportation. Doing so would provide more transparency to independent observers, and allow for a better understanding of key transition measures the company should take to align its business with a Paris-compatible trajectory for the fashion sector. In its sustainability report, Shein provides little and shallow information on its planned emission reduction measures, which gives the impression that the e-retailer is not committed to credible climate action.

Switching to renewable energy in the supply chain, alongside electrifying production processes, are key transition measures for fashion retailers, but Shein does not present targets or a clear transition plan for either of these. The e-retailer mentions its engagement with suppliers including providing cash incentives for suppliers to encourage adoption of on-site solar capacity (Shein, 2025a, p. 50). Shein reports that suppliers consumed 53,383 MWh solar energy from on-site installations in 2024 but without providing more contextual information. Given that Shein consumed close to 250,000 MWh in its own operations (Shein, 2025a) and total electricity consumption in the supply chain must vastly exceed this, we presume that an insignificant share of suppliers' electricity use stems from on-site solar PV. Due to the lack of detail on pursued measures, we were unable to assess their potential impact for emission reductions in the supply chain.

Shein's business model is fundamentally misaligned with the necessary transitions that need to happen in the fashion sector. The company's measures aimed at reducing overproduction and shifting to a more sustainable business model are unlikely to have a significant impact. Shein's business model is built on the constant release of new items at very low prices. We identified no commitment move away from the *ultra-fast fashion* business model. Shein refers to several measures aimed at reducing waste and improving circularity. For instance, Shein operates on an 'on-demand' model: the company initially produces 100–200 pieces of a particular item and scales up production based on consumer interest (Shein, 2025a, p. 64). To Shein, this minimises waste and helps to reduce the company's environmental footprint. Shein piloted take-back programmes in the US, UK and Germany and has plans for a permanent take-back programme in Europe (Shein, 2024, p. 45, 2025a, p. 95). The company also set up a consumer-to-consumer resale platform. While these initiatives might prolong the lifetime of some Shein products, they can only have a limited impact alongside an ultra-fast fashion business model focused on low prices and huge production volumes.

Shein is developing a new polyester recycling process, which will use a range of polyester feedstocks, including textile waste and PET bottles (Shein, 2025d). Polyester, which is made out of petroleum, accounts for over 80% of Shein's fibre portfolio (Shein, 2025a, p. 55). Shein is committed to using 30% of 'recycled' polyester by 2030, up from 6% in 2023 and 7% in 2024 (Shein, 2024, p. 36, 2025a, p. 55). Textile-to-textile recycling accounted for 12% of all 'recycled' polyester used in Shein-branded products in 2024 (Shein, 2025a, p. 55,70). It is, however, not clear what share of the 2030 target will come from textile-to-textile recycling and what share from recycling PET bottles. Most 'recycled polyester' in the fashion sector comes from PET bottles from the beverage industry (Cobbing and Vicaire, 2017; Majumdar *et al.*, 2020). 'Downcycled' polyester would therefore be a more appropriate term, and it is not a credible measure to lower the fashion industry's climate impact. However, recycling post-consumer textiles could have a positive impact on Shein's GHG emissions footprint.

Emissions from transport and logistics account for a third of Shein's reported emissions. The vast majority of Shein's production takes place in China, while the US, the UK and Germany are the main consumer markets (Reid, 2024). Whereas some fast fashion companies ship most of their products to regional distribution centres by ocean, Shein sends individual parcels directly to consumers by air cargo. The company is estimated to ship around 5,000 tonnes per day, which is equivalent to approximately fifty full cargo aircraft (McLymore *et al.*, 2024). Shein has contracted suppliers in Türkiye and Brazil, in addition to suppliers in China, to bring manufacturing processes closer to consumers (Shein, 2024, p. 32, 2025a, p. 4), but the emissions reductions from this measure remain unclear. Although Shein reports it is optimising its global logistics network to promote greater use of land, sea and multimodal routes (Shein, 2025a, p. 51), we did not identify a clear commitment to shift from aviation to maritime, rail and land.

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Annex 5A – Comparison to other assessors and validators

The comparison of the Corporate Climate Responsibility Monitor's (CCRM) integrity assessments for short-, medium-, and long-term emission reduction targets with the Science Based Target initiative's validations and MSCI Net Zero Tracker target assessments reveal several key differences.

Table 5: Comparison between assessment for emission reduction targets by (1) the Corporate Climate Responsibility Monitor (CCRM) 2025, (2) the Science Based Targets initiative (SBTi), and (3) the MSCI Net Zero Tracker; all as of May 2025. Companies listed in alphabetical order for each sector.

COMPANY	CCRM 2025					SBTi	SBTi	MSCI*
	Overaerching	*GHG Targets*	*Short-term (by 2030)*	*Medium-term (2031-2040)*	*Long-term (beyond 2041)*	*Near-term*	*Net zero*	
adidas	*Moderate*	*Reasonable*	*High*	*Very poor*	*Reasonable*	*1.5°C*	*1.5°C*	*1.5°C*
H&M Group	*Moderate*	*High*	*High*	*Reasonable*	*N/A*	*1.5°C*	*1.5°C*	*1.9°C*
Inditex	*Moderate*	*High*	*High*	*Reasonable*	*N/A*	*1.5°C*	*1.5°C*	*1.8°C*
lululemon	*Poor*	*Poor*	*Poor*	*Very poor*	*Reasonable*	*1.5°C*	*1.5°C*	*1.7°C*
Shein	*Very poor*	*Poor*	*Very poor*	*Very poor*	*Moderate*	*1.5°C*	*1.5°C*	*N/A*

** The MSCI Net Zero Track discontinued the public disclosure on its website for single company evaluations in the first half of 2025. Evaluations presented date back to March 2025 before this change in policy.*

Key issues for difference with the Science Based Target initiative (SBTi) validations

The SBTi is currently in the process to revise its Corporate Net Zero Standard with a first draft published in March 2023 (SBTi, 2025). Some of the differences identified below might be addressed in the next version of the standards, which is intended for publication withing the next months

- **Base year choice:** SBTi allows companies to select target base years as late as 2023 and of comparatively high emissions, which lowers the overall mitigation ambition in the target year compared to companies with earlier base years. For example, **Shein**'s emission reduction targets for 2030 below a 2023 baseline would still allow its emissions to more than double compared to 2021 levels.
- **Profit-based emissions intensity target:** SBTI allows companies to set profit-based intensity targets instead of absolute emission reduction targets. We do not consider such intensity metrics as meaningful as fluctuations in profitability can obscure real emissions trends, for example for **lululemon.**

Key issues for difference with the MSCI Net Zero Tracker assessments

- **Lack of disclosure on method and underlying data:** The MSCI Net Zero Tracker does not disclose specific data and methodological approaches on emission reduction targets going into its temperature alignment assessments (MSCI ESG Research LLC, 2024). For this reason, we cannot understand any differences between MSCI's assessments for companies' short-, medium-, and long-term targets.

Annex 5B – Target Integrity assessments

	Short term *(now-2030)*	**Medium term** *(2031-2040)*	**Long term** *(2041 and beyond)*
1 – What are the targets and what do they mean in terms of emission reductions?			
H&M Group	By 2030, scope 1, 2 & 3: Reduce absolute GHG emissions by 56% compared to the 2019 baseline.	By 2040: Reach net-zero emissions By 2040, scope 1 & 2: Reduce absolute emissions by at least 90% compared to the 2019 baseline. By 2040, scope 3: Reduce absolute emissions by at least 90% compared to the 2019 baseline. Balance out any remaining emissions with permanent carbon removals.	No target identified.
Inditex	By 2030, scope 1 & 2: Reduce emissions by 95% compared to 2018 levels. By 2030, scope 3: Reduce emissions by 51% compared to 2018 levels.	By 2040: Reach net-zero emissions. By 2040, scope 1 & 2: Reduce emissions by 95% compared to 2018 levels. By 2040, scope 3: Reduce emissions by 90% compared to 2018 levels.	No target identified.
lululemon	By 2030, scope 1 & 2: Reduce emissions by 60% compared to 2018 levels. By 2030, scope 3: Reduce emissions intensity by 60% compared to 2018 levels.	No target identified.	By 2050: Reach net zero; reduce emissions across the entire value chain by 90% compared to 2018 levels.
Shein	By 2030, scope 1 & 2: Reduce emissions by 42% compared to 2023 levels By 2030: scope 3: Reduce emissions by 25% compared to 2023 levels	No target identified.	By 2050: Net-zero emissions, which includes a commitment to reduce scope 1, 2 and 3 emissions by 90% between 2023-2050
adidas	By 2030, scope 1 & 2: Reduce emissions by 70% compared to 2022 levels. By 2030, scope 3: Reduce emissions by 42% compared to 2022 levels. By 2025: Reduce carbon intensity per product by 9%.	No target identified.	By 2050: Net-zero GHG emissions

	Short term *(now-2030)*	**Medium term** *(2031-2040)*	**Long term** *(2041 and beyond)*
2 – What do the targets mean in terms of emission reductions?			
H&M Group	56% by 2030	90% by 2040	No target identified.
	The target appears to cover all emission sources and so is equal to a 56% reduction of 2019 emissions.	The target appears to cover all emission sources and so is equal to a 90% reduction of 2019 emissions.	N/A
Inditex	48-53% by 2030 (from 2018 levels)	83-88% by 2040	No target identified.
	Inditex's 2030 target to reduce 95% of its scope 1 and 2 emissions and 51% of its scope 3 emissions results in an overall reduction of 48-53% of its total 2018 emissions. The range depends on the accounting approach for scope 2 emissions.	Inditex's net zero target by 2040 results in an overall reduction of 83-88% of its total 2018 emissions, due to the exclusion of minor emission sources. The range depends on the accounting approach for scope 2 emissions.	N/A
lululemon	Unclear	No target identified.	90% by 2050
	We cannot independently quantify lululemon's interim intensity targets in terms of absolute emission reduction by 2030. The target to reduce scope 3 emissions translates to a 44% reduction per unit of gross profit by 2030 below 2018. The target could allow lululemon to increase emissions compared to 2018.	N/A	lululemon commits to an emissions reduction target of 90% by 2050 below 2018 levels across the entire value chain alongside its 2050 net-zero pledge. lululemon's 90% emission reduction target translates to roughly the same emission reductions below 2019.
Shein	108% by 2030 (from 2021 levels)	No target identified.	79% by 2050
	Shein's 2030 target translates to an increase of 108% between 2021 and 2030, and an estimated sevenfold increase compared to 2019.	N/A	Shein's 2050 net-zero target translates to a reduction of 79% across the value chain between 2021 and 2050.
adidas	42% by 2030 (from 2022 levels)	No target identified.	90% by 2050 (from 2022 levels)
	adidas's targets amount to a 42% emission reduction by 2030 below 2022 levels. Emission reductions below 2019 levels cannot be quantified due to adidas having divested from Reebok in early 2022. adidas has not published readjusted historical emissions.	N/A	adidas's target amounts to a 90% emission reduction by 2050 below 2022 levels. Emission reductions below 2019 levels cannot be quantified due to adidas having divested from Reebok in early 2022. adidas has not published readjusted historical emissions.

	Short term *(now-2030)*	**Medium term** *(2031-2040)*	**Long term** *(2041 and beyond)*
3 – Is this emission reduction commitment in line with 1.5°C-compatible trajectories or benchmarks for the sector? *Given that emissions in the fashion industry occur in various sectors, including agriculture and energy, we consider that fashion retailers should reduce their GHG and CO_2 emissions between 2019 and 2030 by 43% and 48%, respectively, in line with what is necessary at the global level.* *Teske (2022) considers that between 2019 and 2050, the textile and leather industry and the manufactured fibres and synthetic rubber industry should reduce their scope 1 GHG emissions by 100%, scope 2 by 100%, and scope 3 by 48%.*			
H&M Group	High	Reasonable	N/A
	Targeted emission reductions are in line with 1.5°C compatible benchmarks.	Targeted emission reductions are in line with 1.5°C compatible benchmarks, but the company does not set an interim target to guide the period between 2030 and 2040.	N/A
Inditex	High	Reasonable	N/A
	Targeted emission reductions are in line with 1.5°C compatible benchmarks.	Targeted emission reductions are in line with 1.5°C compatible benchmarks, but the company does not set an interim target to guide the period between 2030 and 2040.	N/A
lululemon	Poor	Very poor	Reasonable
	lululemon's 2030 short-term scope 1 and 2 targets meet 1.5°C Paris Agreement-aligned global milestones, however, we are unable to compare lululemon's short-term scope 3 target to sectoral 1.5°C-aligned benchmarks as lululemon has set an emission intensity target, measured as emissions per unit of gross profit.	No medium-term target (2031–2041) identified.	lululemon's 2050 90% emission reduction target seems to be aligned with 1.5°C-compatible sectoral benchmarks.
Shein	Very poor	Very poor	Moderate
	Shein's 2030 short-term targets do not meet 1.5°C Paris Agreement-aligned milestones for fashion retailers.	No medium-term target (2031–2041) identified.	The net zero target translates to a reduction of 79% below 2021 levels. This is misaligned with global benchmarks and does not result in deep emission reductions that the term 'net zero' implies.
adidas	High	Very poor	Reasonable
	A 42% emission reduction is almost in line with IPCC cross sector benchmarks for GHG emissions, which call for 43% emission reduction by 2030.	No medium-term target (2031–2041) identified.	adidas's 2050 90% emission reduction target seems to be aligned with 1.5°C-compatible sectoral benchmarks.

Annex 5C – Key transition integrity assessments

	Electrification of heat and manufacturing processes	Renewable energy in the supply chain	Reduce overproduction and slow growth in virgin product volumes	Source low-carbon fibres	Sustainable logistics and transport solutions	Procurement of renewable electricity for own operated factories
1 – What transition targets does the company set?						
H&M Group	H&M implements some measures to electrify key manufacturing processes in its supply chain but it does not commit to a specific target	By 2030, 100% renewable electricity for garment production supply chain, from spinning to a finished product in tier 1, 2 and 3. By 2026, phase out onsite coal from all garment suppliers in tier 1, 2 and 3.	No targets identified, but H&M's resell programmes have been scaled up to account for 0.6% of revenue in 2023.	Overarching goal: use 100% recycled or sustainably sourced materials in commercial products by 2030, by including at least 30% recycled material by 2025 and 50% recycled material by 2030 - Maintain 100% use of cotton that is recycled, organic, or sustainably sourced (e.g., Better Cotton, regenerative) and maintain 100% certified mohair (RMS or recycled) - Use 100% recycled polyester, certified RWS virgin wool, certified GCS virgin cashmere, recycled down, chrome-free, vegetable- or metal-free leather, virgin MMCF (FSC or PEFC certified)and virgin wood based materials (FSC certified) by 2025	H&M implements some measures to address transport emissions but does not commit to a specific target	
Inditex	Inditex acknowledges the need for electrification but we identified no targets or measures.	50% by 2030 and 100% by 2040 renewable electricity in supply chain manufacturing processes. No mentions of 24/7 matching.	Target to provide circularity services (repair, second-hand sales and donations) in key markets by 2025. We identified no targets or measures against overproduction.	100% preferred linen and polyester by 2025. 100% lower-impact textile raw materials by 2030. 40% of fibres from conventional recycling by 2030. 25% of the fibres from organic or regenerative agriculture by 2030	90% of alternative fuels in maritime transport by 2025	By 2027, 40% of Inditex's global electricity consumption will come from selfconsumption and other mechanisms like PPAs and VPPAs, and by 2030 reach 60%. Commits to tripling current self-consumption capacity of renewable electricity at own headquarters, offices and own distribution centres by 2027, corresponding to reaching 25% renewable electricity.
lululemon	No targets or measures specifically focused on electrification identified.	25% renewable electricity among core tier 1 and 2 suppliers by 2025, 50% by 2030	No targets or measures identified.	100% products procured containing preferred materials by 2030 75% of total preferred materials procured for products by 2025	No targets or measures identified.	
Shein	No targets or measures specifically focused on electrification identified.	No targets or measures identified.	No targets or measures identified.	31% recycled polyester by 2030 Reference to goals for man-made cellulosic fibres but target not disclosed	No targets or measures identified.	
adidas	No targets or measures specifically focused on electrification identified.	No targets or measures identified.	98% of waste from Tier 1 & 2 suppliers diverted from landfills by 2025	100% of polyester to be recycled polyester by 2024 10% of polyester to come from recycled textile waste by 2030 90% of articles to be sustainable by 2025 deforestatino and conversion free bovine leather supply chain by 2030 100% third-party certified cotton since 2018 100% third-party certified wool by 2024	No targets or measures identified.	

	Electrification of heat and manufacturing processes	Renewable energy in the supply chain	Reduce overproduction and slow growth in virgin product volumes	Source low-carbon fibres	Sustainable logistics and transport solutions	Procurement of renewable electricity for own operated factories
2 – Are the transition targets in line with 1.5°C-compatible trajectories or benchmarks for the sector?						
H&M Group	Poor	Moderate	Poor	?	Poor	
	H&M implements some measures to electrify key manufacturing processes in its supply chain but it does not commit to a specific target	H&M has set a target to have 100% of its suppliers source renewable electricity by 2030. The target is in line with 1.5C benchmarks for the sector, and covers tier 1, 2, and 3 suppliers. The target reflects a timely implementation of the transition, inlcuding short- and long-term action.	H&M Group outlines measures to reduce overproduction and waste (resale, repair, rental, reuse, recycling), but no target was identified.	There are no science-based decarbonisation benchmarks for this transition so no assessment is possible	H&M implements some measures to address transport emissions but does not commit to a specific target	
Inditex	Very poor	Moderate	Poor	?	Poor	Moderate
	Inditex acknowledges the need for electrification but we identified no targets or measures.	50% by 2030 and 100% by 2040 of renewable electricity in supply chain manufacturing processes. Aligned with 1.5°C, covers all activities, partially timely implementation. However: No clarity on Standalone RECs, no clarity on biomass use in supply chain, no mentions of 24/7 matching.	Inditex introduces some circularity measures, but no targets or measures against overproduction identified.	There are no science-based decarbonisation benchmarks for this transition so no assessment is possible.	90% of alternative fuels in maritime transport by 2025. Lack of any targets for other upstream or downstream transport emissions. No meaningful aviation goals despite a great share of emissions coming from the aviation sector.	Measures and target for own factories are partially in line with 1.5°C compatible trajectories, and reflect a timely implementation of the transition.
lululemon	Very poor	Moderate	Poor	?	Poor	
	lululemon does not set a target or implement significant measures to electrify key manufacturing processes in its supply chain.	lululemon has set a target to have 25% of its suppliers source renewable electricity by 2025 and 50% by 2030. The target is partially in line with 1.5C benchmarks for the sector, but covers only 75% of its tier and 2 suppliers, leaving out tier 3 suppliers. The target reflects a timely implementation of the transition, inlcuding short- and long-term action.	lululemon implements some circularity measures but does not set targets on circularity and overproduction.	There are no science-based decarbonisation benchmarks for this transition so no assessment is possible	lululemon implements some measures to address transport emissions but does not commit to a specific target.	
Shein	Very poor	Poor	Very poor	?	Poor	
	No targets or measures identified on increasing electrification in the supply chain.	Shein implements some measures to increase the share of renewable electricity in its supply chain but does not set targets.	Shein reports that its on-demand business model and online resale platform lead to less overproduction and more circulatiry. No targets or measures identified to move away from the ultra fast fashion business model.	There are no science-based decarbonisation benchmarks for this transition so no assessment is possible.	Shein reports some plans to reduce downstream emissions from transportation, but no targets identified.	
adidas	Very poor	Poor	Very poor	?	Poor	
	adidas implements some measures to address the transition, but it does not commit to a specific target on electrification of key manufacturing processes.	adidas implements some measures to address the transition, but it does not commit to a specific target on increasing renewable energy in the supply chain.	No targets or measures identified related to overproduction.	There are no science-based decarbonisation benchmarks for this transition so no assessment is possible	adidas implements some measures to address the transition, but it does not commit to a specific target on reducing air freight and decarbonising maritime and land transport.	

	Electrification of heat and manufacturing processes	Renewable energy in the supply chain	Reduce overproduction and slow growth in virgin product volumes	Source low-carbon fibres	Sustainable logistics and transport solutions	Procurement of renewable electricity for own operated factories
3 – What is the companies progress towards the sectoral transition?						
H&M Group	No progress identified or insufficient data	Right direction, on track	No progress identified or insufficient data	No benchmarking possible (lack of available benchmarks)	No progress identified or insufficient data	
	No progress indicators identified.	H&M presents some progress measures for circularity and overproduction but progress cannot be identified due to lack of benchmarks.	H&M presents some progress measures for circularity and overproduction but there is not sufficient data to assess progress.	H&M has set targets on increasing the share of preferred fibres however there are no benchmarks to assess progress.	No progress indicators identified.	
Inditex	Wrong direction, critically off track	No progress identified or insufficient data	No progress identified or insufficient data	No benchmarking possible (lack of available benchmarks)	No progress identified or insufficient data	Right direction, off track
	No progress indicators identified.	No progress indicators identified.	Inditex presents some measures to increase circularity while its production volumes increased between 2023 and 2024, but there is not sufficient data to assess progress.	There are no science-based decarbonisation benchmarks for this transition so no assessment is possible.	No progress indicators identified.	As of 2025, a virtual Power Purchasing Agreement for the coming 10-12 years will cover up to a third of Inditex's own energy consumption.
lululemon	No progress identified or insufficient data	Well off track	No progress identified or insufficient data	No benchmarking possible (lack of available benchmarks)	No progress identified or insufficient data	
	No progress indicators identified.	lululemon is increasing the share of renewable electricity sourced by its key suppliers, but only reached 14% renewable electricity in 2023 which remains lower than the grid RE mix in Vietnam, China and Sri Lanka.	lululemon presents some progress measures for circularity and overproduction but there is not sufficient data to assess progress.	lululemon is on track to reach its targets for prefered materials and fibres for 2025, however there are no benchmarks to evaluate this target.	lululemon states that it used less flights in 2024 but does not provide sufficient data to evaluate progress. Data on progress on other measures to decarbonise transport and freight is lacking.	
Shein	No progress identified or insufficient data	No progress identified or insufficient data	No progress identified or insufficient data	No benchmarking possible (lack of available benchmarks)	No progress identified or insufficient data	
	No progress indicators identified.	No progress indicators identified.	No progress indicators identified.	Shein sets a target to increase the share of textile-to-textile recycling and reports progress, however it is unclear what feedstock is being used. There are no benchmarks to assess progress against on this transition indicator.	No progress indicators identified.	
adidas	Wrong direction, critically off track	Well off track	No progress identified or insufficient data	No benchmarking possible (lack of available benchmarks)	No progress identified or insufficient data	
	No progress indicators identified.	adidas reports that the share of renewable electricity is increasing among some suppliers, however progress is not aligned with benchmarks.	adidas presents some progress measures for circularity and overproduction but there is not sufficient data to assess progress.	adidas sets targets on increasing the share of preferred materials but there are no benchmarks available to assess progress.	No progress indicators identified.	

The rapid acceleration in the volume of corporate climate pledges, combined with the fragmentation of approaches and the general lack of regulation or oversight, means that it is more difficult than ever to distinguish between real climate leadership and unsubstantiated greenwashing.

The Corporate Climate Responsibility Monitor 2025 evaluates the climate strategies of 20 major corporations. It critically analyses the transparency and integrity of corporate pledges and claims to identify replicable good practice and areas for improvement.

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