Clean Energy
Close Up
2024

An in-depth analysis of the tangible progress of 11 of the most influential global fashion companies
# Table of Contents

- **Executive Summary**  03
- **Company Scores**  04
- **Introduction**  06
  - Report Findings  07
  - Recommendations  09
- **Fast, Fair and Final: Reframing the Energy Transition within Collective Responsibility**  11
- **Category Analysis**  12
  - 1.5 Aligned Climate and Energy Commitments  13
    - Reaching 100% Renewable Electricity  14
    - Coal Phase-out and Thermal Energy Transition  15
  - Transparency  16
  - Progress Towards 2030  17
    - Runway to 2030: Reducing Emissions  17
    - Renewable Electricity Progress  18
  - Actions and Advocacy  20
    - Step 1: Training, Feasibility and Engagement  20
    - Step 2: Fair Financing  21
    - Step 3: Supportive Purchasing Policies  21
- **Company Scorecards**  24
- **Methodology**  25
- **References**  27
Executive Summary

For the past several years, Stand.earth’s Fossil Free Fashion Scorecard has provided a detailed assessment of how a significant proportion of the world’s biggest and most influential fashion companies are working to cut fossil fuels out of their manufacturing and supply chains. The 2023 Scorecard found pockets of progress, but found that companies provided no or little detail on the incremental steps they are taking to advance a renewable energy transition, and meaningful financial investment by the majority of brands was desperately lacking.

The 2024 Clean Energy Close Up is designed to build on that foundation by providing an in-depth analysis of the tangible progress of 11 of the most influential global fashion brands. Their performance is measured against the runway to an equitable fossil fuel phase-out by 2030 on criteria related to energy efficiency and renewable energy, drawing in data shared publicly by manufacturers in their supply chains. Detailed recommendations are provided to help course correct and put these industry giants back on track to slash emissions by 55% by 2030 compared with 2018 levels, while enabling a dramatic supply chain transformation away from fossil fuels.

The accompanying Fashion Supply Chain Map provides an interactive tool to explore some of fashion’s most interwoven supplier relationships, and highlights the extreme ambition versus implementation gap between brands and their key product manufacturers.

While some progress was evident, with fewer than six years of runway left to 2030, even some of the most influential fashion brands in the world are not yet on course to effectively phase-out fossil fuels and transition to renewable energy. Significant focus, action and funding is still desperately needed to deliver a fast and fair phase-out of fossil fuels by 2030. This is paramount in order to address the harmful consequences of climate breakdown that can impact vulnerable workers in key sourcing hubs, and to address power imbalances across the supply chain.

In addition, false solutions remain a growing concern. Far greater transparency and attention is needed on high impact renewable electricity sourcing in fashion supply chains, over ineffective unbundled renewable electricity certificate (REC) purchases, in order to prioritize real decarbonization over a false phase-out.

Finally, and importantly, this evaluation is to measure how some of most influential fashion companies are financing and supporting the decarbonization of their supply chains, and is not intended to assess how “environmentally friendly” they are as a company. For as long as companies remain elusive about the quantities of their production, we should question how genuine their climate commitments truly are.
Note to brands: It is important to note emphasize that this is an evaluation and should not be misinterpreted as a ranking, and that brands should not promote nor market their order placement as such.
Key Facts and Figures

01 — Only two brands, H&M Group, and PUMA, scored more than 50/100. The median score across eleven brands was just 20.5/100, and lowest-scoring brand SHEIN scored just 2.5/100, demonstrating a dire need for action.

02 — SHEIN’s absolute emissions increased by nearly 50% (from 6.04 to 9.17 million tons of CO2e) in just one year to 2022, more than the annual emissions of the nation of Paraguay. The e-retailer’s staggering growth alone threatens to undermine decarbonization progress made by more traditional brands.

03 — Levi Strauss & Co, PUMA, and H&M Group are the only brands currently on track to reduce manufacturing emissions by at least 55% by 2030 compared with 2018 levels.

04 — PUMA reported significant growth to 27.4% renewable electricity across core Tier 1 and 2 suppliers in 2023, but to prove that the growth is tangible, the company needs to report how much of it is via ineffective unbundled RECs compared with on-site generation or power purchase agreements.

05 — H&M Group was the only brand to offer suppliers grants to decarbonize, e.g., installing rooftop solar panels, but has yet to fully disclose the impact on phasing out fossil fuels.

06 — None of the 11 brands explicitly shared a full total of production volume in tons of their apparel and footwear, which is a critical piece of the puzzle to reducing absolute emissions across the supply chain.

Scoring Categories

1.5°C-Aligned Climate and Energy Commitments
Setting sufficient climate and energy targets which align with keeping global heating below 1.5°C

Transparency
Transparent reporting of climate, energy and electricity data across supply chains

Progress Towards 2030
Progress reducing manufacturing emissions, increasing renewable electricity and phasing out coal

Actions and Advocacy
How brands are engaging with, investing in and supporting their suppliers, and advocating for change at a national or regional level to support the energy transition.
For the past several years, Stand.earth's Fossil Free Fashion Scorecard has provided a detailed assessment of how a significant proportion of the world's biggest and most influential fashion companies are working to cut fossil fuels out of their manufacturing and supply chains. The evaluation has analyzed performance on energy, materials, circularity and shipping.

Twelve months on from the 2023 Scorecard's publication, brands continue to be called on to more closely account for how they are providing a supportive and equitable environment in which to phase-out fossil fuels in their supply chains. In December 2023, a key outcome of the COP28 global climate conference was a pledge by 124 governments to triple renewable energy capacity and double energy efficiency by 2030. Nations such as Bangladesh, the second largest exporter of garments with a 7.9% global share, were amongst the signatories.

Meanwhile, in the wider fashion industry, a growing focus on equity has highlighted the need for collective action to achieve these goals. The Transformers Foundation called for brands and manufacturers to pay a fair share for the transition. The Business of Fashion-McKinsey State of Fashion 2024 report highlighted the growing and future cost to the fashion industry of climate catastrophes. These are already harming workers and by 2030 could jeopardize $65 billion worth of apparel exports and eliminate nearly one million jobs. Remake's Fashion Accountability Report 2024 emphasized the dangerous disparities between risk and reward for the most vulnerable people in the fashion supply chain - the workers - who face increasingly difficult working conditions for pay that still falls well below a living wage.

Now, the issue is not merely whether brands are taking meaningful steps towards climate action, but also how they are approaching targets related to decarbonization and a fossil fuel phaseout. Roadmaps with tangible near, medium and long-term actions, and which ensure meaningful consultations with key stakeholders and address the systemic inequalities built into fashion supply chains, are being demanded and brought into sharper focus.

The conclusion is overwhelming: that while movement is there, as seen through growing focus on financing for renewable electricity from retailers like H&M Group, investment and change within the industry is still far from sufficient. Simply put, brands are not yet on track to decarbonize. However, it is possible for fashion industry leaders to equitably and rapidly achieve a fair phase-out of fossil fuels by 2030.

The purpose of the 2024 Clean Energy Close Up is to provide an in-depth analysis of the tangible progress of eleven of the most influential global fashion brands. Their performance is measured against the runway to an equitable fossil fuel phase-out by 2030, drawing in data shared publicly by manufacturers in their supply chains. Detailed recommendations are provided to help course correct and put these industry giants back on track to slash emissions by 55% by 2030 compared with 2018 levels, while effecting a significant supply chain transformation away from fossil fuels.

The Clean Energy Close-Up focuses on criteria related to energy efficiency and renewable energy, including thermal energy and electricity, as well as commitments, transparency, and active advocacy internationally to increase access to renewables in manufacturing regions. Importantly, specific and measurable progress against benchmarks for a fossil fuel phase-out is a priority area of assessment.

For this report, Stand.earth used a combination of publicly available data, customs database analysis and detailed supply chain research. This was used to identify a total of 66 important suppliers in Asia connected to each of the brands, identify where overlaps occur and to examine the commitments and sustainability data of each supplier company.

This detailed research provides critical insights into how commitments and actions by brands are manifesting in the supply chain, identifies where the main action gaps remain and uncovers opportunities for industry collaboration in pursuit of a just transition.
The majority of brands scored less than 25/100, demonstrating an alarming lack of progress and action towards decarbonization.

- **H&M Group** was awarded the highest total score among the assessed brands, due to its leading supply chain emissions and renewable electricity targets, and for offering the most tangible financial support, supplier engagement and effective supply chain advocacy.

- Only two companies, **H&M Group** and **PUMA**, were awarded more than 50/100, while the median score across eleven brands was just 20.5/100 (**Gap Inc.**), underlining the need for urgent improvement.

- The lowest scoring brand, **SHEIN**, was awarded just 2.5 points, reporting dangerous emissions growth and no credible plan to decarbonize.

**Renewable electricity remains out of focus for brands, as nine out of 11 brands have no public targets to increase renewable electricity in their supply chains.**

- Only H&M Group met the benchmark of committing to 100% renewable electricity in the supply chain by 2030.

**Commitments**

**Climate and renewable energy ambition remains too low.**

H&M Group was the only company to have set a target to reduce Scope 3 GHG emissions by more than the required 55% by 2030 at 56%.

**Energy transparency at a supply chain level is limited, both from brands and manufacturers.**

- Only PUMA and Nike shared detailed information about their supply chains’ energy and electricity use in Tiers 1 and 2, which is essential for tracking their progress in decarbonizing.

- Among manufacturers included in the supply chain map, 38% (25 companies) shared their energy use data, and just five reported their total coal consumption.

**Progress Towards 2030:**

**Levi Strauss & Co, PUMA and H&M Group are the only brands currently on track to reduce manufacturing emissions by at least 55% by 2030 compared with 2018 levels**, as emissions are still not falling fast enough to be aligned with the 1.5°C pathway.

- Lululemon more than doubled its emissions since its baseline year12, and is still heading in the wrong direction.

- Lululemon is currently being investigated by the Competition Bureau Canada on grounds of Greenwashing, following a complaint by Stand.earth.

- In the last year of available data, **SHEIN, VF Corp, Inditex (Zara) and Lululemon** all reported dangerously elevated double-digit percentage increases, while Gap Inc. and Fast Retailing’s negative impact surged.

**SHEIN’s absolute emissions increased by more than 3 million tons from 6.04 to 9.17 million tons of CO2e in just one year to 202213, more than the annual emissions of the nation of Paraguay14.** The e-retailer’s staggering growth alone threatens to undermine decarbonization progress made by more traditional brands.

**PUMA and Nike reported specific growth in renewable electricity in their supply chains, but offsetting may be hiding a false phase-out.**

- PUMA reported significant growth to 27.4% renewable electricity across core Tier 1 and 2 suppliers in 202315

- However, transparent reporting on supply chain renewable electricity sourcing remains extremely limited, and greater focus on high impact procurement over short-term REC/EAC purchases is needed to avoid potential greenwashing of emissions.

- From the 20 manufacturing companies who report on any kind of renewable electricity sourcing, 13 (65%) reported purchasing RECs. RECs have been shown to have a limited impact on real decarbonization16.

**There are signs of progress in the coal phase-out but companies’ concerning shift towards biomass is beginning to impact fashion supply chains.**

- In 2022, 16 manufacturers reported using biomass as a coal replacement fuel; transparency, especially energy use and energy source of suppliers is limiting the ability to measure progress.

- Not one of the influential fashion brands assessed in the research has publicly shared a plan to phase-out burning altogether as part of their thermal energy transition plan.
Actions and Advocacy:
Actions by brands to push suppliers towards an energy transition are increasing, but they are not doing enough to make it both fair and final, as financial support remains limited and false solutions predominate.

Fair financing for manufacturers to support the energy transition is limited and too low, a significant barrier for decarbonization progress.

- Adidas, H&M Group, Levi Strauss & Co, Nike, and PUMA are the only brands to report providing any degree of financing for manufacturers to complete renewable electricity, coal boiler replacement or energy efficiency projects, but the scale and availability was limited and too low.
- H&M Group was the only company to offer financing that was not debt-based, and to have KPIs tied to emissions reductions.
- None of the companies assessed reported transparently on the terms, value invested or availability to suppliers.

None of the companies showed evidence of long term contracting, absorbing price surges related to decarbonization, or the development of fair purchasing policies related to sustainability needed for a just transition.

- Ten brands reported requiring some level of decarbonization, energy transition or reporting from suppliers.
- Required target setting and climate action must be accompanied by supportive purchasing policies that address systemic power imbalances between customer and supplier in order to support a rapid and equitable fossil fuel phase-out.
Recommendations

Publish a roadmap with a transparent, time-bound and specific energy transition plan for their entire supply chains, and report annually on progress and actions.

Financial support, including supportive procurement policies to advance an effective transition, is essential for a fossil fuel phase-out that is both rapid and fair.

Fashion brands must prioritize, promote and advocate for an energy transition that will result in an effective fossil fuel phase-out, rather than mask ongoing emissions growth with carbon accounting.

Collaborate with others, both inside and outside the supply chain, to avoid false solutions and create transition plans that are effective and locally appropriate.

1. Brands must publish a roadmap with a transparent, time-bound and specific energy transition plan for their entire supply chains, and report annually on progress and actions.
   a. Brands must publish their plan to transition to 100% renewable electricity (wind and solar and battery storage) and non-burning thermal processes in their supply chains, and an absolute emissions reduction plan of at least 55% by 2030 compared with 2018 levels.
   b. Disclose plans developed and steps taken to actively consult and include all interested parties including worker-led unions, local civil society organizations and impacted communities in energy transition plans;
   c. Disclose annually the time-bound progress report against benchmarks including actions with key indicators, including but not limited to:
   d. Financial investment, including total investment and availability to supply chain partners, training programs available and implemented, responsible purchasing practices implemented, share of supply chain engaged and impact on fossil fuel phase-out
   e. Full energy and emissions data broken down by supplier tier, geographic region and sourcing
   f. Detailed information on thermal energy sourcing and action plans broken down by region

2. Financial support, including supportive procurement policies to advance an effective transition, is essential for a fossil fuel phase-out that is both rapid and fair.
   a. Brands must share the financial responsibility of transitioning their supply chain to renewable energy by providing financing options that:
      i. Are not tied purely to debt-based loan arrangements
      ii. Are not tied to short term payoff, or have no financial rate of return, such as H&M’s Green Fashion Initiative which measures success by emissions reductions
      iii. Reporting transparently on their program
   b. Brands must provide sufficient financial stability for suppliers to transition, including signing long term contracts with suppliers during their transition phase, building in price increases to reflect a green premium, and set timelines for appropriate target-setting and transparency within their supply chain.
   c. Investors, boards and leaders have a responsibility to support companies that are financing an energy transition in their supply chain, rather than those with the best profit margin.
3. Fashion brands must prioritize, promote and advocate for an energy transition that will result in an effective fossil fuel phase-out, rather than mask ongoing emissions growth with carbon accounting.

a. Prioritizing high impact renewable electricity such as direct Power Purchase Agreements (PPAs) and on-site renewables (solar and battery storage) is essential to achieve real-world reduction of fossil fuels, and ensure that the associated improvements in air quality and community benefits are felt by communities around manufacturing sites. Overreliance on purchasing instruments such as RECs and EACs, and even virtual PPAs (vPPAs), can result in the appearance of reduced emissions, despite an ongoing reliance on fossil fuels.

b. To avoid potentially greenwashing or overestimating their emissions reductions, brands should ensure that they are accounting only for emissions reductions that are impactful, and are proportionate to their efforts and engagement with supplier companies.

c. Where access to high impact renewable electricity options are not available, brands should advocate to improve local access, overcome barriers and improve price stability in line with regional needs.

4. Collaborate with others, both inside and outside the supply chain, to avoid false solutions and create transition plans that are effective and locally appropriate.

a. Seek out and consult experts, including civil society organizations like Stand.earth and others, to identify areas of focus that avoid false solutions and prioritize impact

b. Collaborate with manufacturers and to identify locally appropriate and impactful decarbonization solutions

c. Actively include workers representatives and local civil society organizations to ensure that transition plans address worker priorities and provide community benefits.
An energy transition away from fossil fuels in the fashion sector is crucial to meeting brands’ commitments to the Paris Agreement on Climate Change. However, its effectiveness hinges on the principles of justice and equity.

A transition solely focused on cutting reported emissions may inadvertently perpetuate existing socio-economic disparities within the fashion supply chain. For example, Bangladesh, the second largest global apparel exporter, was ranked as the seventh-most climate vulnerable country in the world in the 2021 Global Climate Risk Index. This is despite having a low historical contribution to global emissions, but is now facing massive economic challenges to mitigate or adapt to climate impacts.

This dangerous dynamic of inequality, which played out on the global stage during COP28 negotiations on Loss and Damage in December 2023, is mirrored in the fashion industry.

Brands which authentically support and advocate for a just energy transition will adopt a number of measures. This includes sharing financial responsibility for changes related to reducing fossil fuel reliance and transitioning to renewable energy between brands and manufacturers; collaborating with manufacturers to develop and implement targets and solutions that are appropriate for their geography and business; and addressing the inherent brand-manufacturer power imbalance by establishing long-term, collaborative supplier relationships and fair purchasing agreements.

Cohesive just transition plans will be inclusive of worker voices while providing support for climate adaptation as well as mitigation. They must involve local communities in decision-making processes related to renewable energy projects to share the benefits of renewable energy projects and contribute to community development, and avoid disproportionate impacts on marginalized communities.

Focusing on the energy transition without adequate inclusion also risks neglecting the welfare of workers, who are often the most vulnerable to the worst impacts of climate breakdown. A study by Cornell University found that workers across some of Asia’s biggest garment manufacturing hubs face dangerously high temperatures inside factory buildings. In one case study on Dhaka, garment workers reported headaches, exhaustion from dehydration, and lack of sleep at home due to high heat, all while fearing a loss of earnings from illness or reduced capacity.
Category Analysis
This category assesses whether these key brands are setting sufficient climate and energy targets, with priority given to supply chain commitments.

Commitments to slash supply chain emissions by at least 55% by 2030, in line with a 1.5°C pathway, and to transition to renewable energy in the supply chain, are an essential and powerful step for brands to take. Targeting 100% renewable energy in manufacturing sends a clear signal to manufacturers, governments, and competitors that access to renewables is an important purchasing consideration. It also sends a message to generations of increasingly climate-conscious citizens that decarbonization is high on a brand’s agenda.

The influential companies assessed in this report have the ability and resources to set a public commitment to 100% renewable energy by 2030. They also have the capacity to report publicly on their progress and catalyze a significant shift towards clean energy in manufacturing regions such as Bangladesh and across Southeast Asia. Failure to target a renewable supply chain seriously undermines a brand’s emissions reduction targets, and demonstrates a concerning lack of commitment to responsible climate action.

The analysis found that climate and renewable energy ambition remains too low, a disappointing finding given how close 2030 is. H&M Group was the only retailer to set sufficient targets for greenhouse gas (GHG) emissions reduction, renewable energy usage and coal phase-out targets. PUMA was the only other brand to make a public commitment to supply chain renewable energy, but targeted just 25% of “core suppliers” by 2025. In the past year some progress is evident, notably Inditex making a new commitment to reduce its supply chain emissions by 50% by 2030.

Cutting Emissions

Brands should be targeting a minimum of 55% emissions reduction by 2030 compared with 2018 levels across their full Scope 1, 2 and 3 emissions areas, with a focus on Scope 3 which represents the vast majority of their climate impact.

**Scope 3**

Scope 3 emissions refer to everything outside of a company’s direct control. For fashion brands, Scope 3 represents the vast majority of their emissions, of which product manufacturing is by far the greatest part. For that reason, ambitious Scope 3 emissions reduction targets of 55% or higher by 2030 are an essential part of a meaningful climate plan.
Every company set an emissions reduction target for their stores and offices of at least 55% by 2030, or higher, while Adidas and Levi Strauss & Co have set nearer term targets to 2025. However, in the supply chain there is still a significant ambition gap that needs to be addressed:

- **H&M Group was the only company to have set a target to reduce Scope 3 GHG emissions by more than the required 55% by 2030 at 56%.** PUMA increased the integrity of its Scope 3 target in 2024 by shifting from an intensity based to a 33% absolute emissions reduction target, which, while still too low, is an important step.

- **Fast Retailing (UNIQLO), SHEIN, and Lululemon are lagging the furthest behind,** targeting 25% emissions reduction or less by 2030 and a less impactful intensity-based reduction, respectively.

### Reaching 100% Renewable Electricity

Transitioning to renewable electricity across a company’s supply chain has the potential to cut emissions in the fashion industry by as much as 27%, according to the Apparel Impact Institute. It is an essential lever to achieve long term climate commitments.

The vast majority of apparel manufacturing takes place in countries that are heavily dependent on fossil fuels for electricity generation. The use of coal for power generation continues to grow in major manufacturing countries including China, India and Vietnam. According to the IEA, coal represented a whopping 49% of total energy supply in Vietnam as of 2021.

Brands need to send a clear signal to governments, manufacturers and industry bodies that increasing wind and solar generation and phasing out fossil fuels is a sourcing priority.

Yet, when it comes to renewable energy targets, commitments are still lacking. No new supply chain renewable electricity targets have been set in the last year.
Only H&M Group and PUMA have set specific public supply chain renewable electricity commitments, and only H&M Group committed to 100% renewable electricity in the supply chain by 2030\textsuperscript{29}.

PUMA's commitment to sourcing 25% of renewable energy for its core suppliers by 2025 offers a meaningful time-bound plan to increase clean energy\textsuperscript{30}, but when the brand updates its commitments for after 2025, it is essential that it increases this ambition.

Adidas includes a requirement for suppliers to “adopt clean energy, including rooftop solar energy, energy sourced through renewable energy purchase power agreements (PPAs), and other renewable alternatives” as part of its Decarbonization Manifesto, but has not set a specific public target for its supply chain\textsuperscript{31}.

### Coal Phase-out and Thermal Energy Transition

Thermal energy produced by burning coal and other fuels for heat and steam-based processes is a significant source of emissions in fashion manufacturing, mainly in Tier 2.\textsuperscript{32} To set an effective climate transition plan, brands need to target a coal phase-out and ultimate electrification of thermal processes. Alongside this, they should focus on innovating dry processing alternatives, which the World Resources Institute (WRI) and Apparel impact institute (Aii) estimate could reduce the industry’s total emissions by more than a quarter (26%).\textsuperscript{33}

While the majority of the brands (except SHEIN) have effectively targeted a coal phase-out, none have openly identified a plan to phase-out burning altogether as part of their thermal energy transition plan. Instead, many have identified burning biomass as an alternative or transition fuel. Research has shown that the most widely used form of biomass, wood pellets, generates higher carbon emissions than conventional fossil fuels, particularly when accounting for the CO2 emitted during cultivation, transportation, and processing phases, as well as the depletion of carbon stocks resulting from forest harvesting.\textsuperscript{34}

Several of the brands acknowledge concerns over biomass and state that they prioritize “sustainable” and certified biomass sourcing, including sources such as rice husks or agricultural waste\textsuperscript{35}. However, there is limited research available as to the emissions, air pollution and other impacts of alternative biomass feedstocks, leaving potentially serious gaps in brands’ long term climate transition plans.

For the first time, in its new 2023 Climate Transition Plan, H&M Group specifically reports prioritizing electrification, which is positive, but the company has been active in promoting biomass as a transition on-site energy source\textsuperscript{36}.

Seven brands specifically mention biomass as an alternative fuel to replace coal as part of their phase-out plans.

It is interesting to note that PUMA also reports concerns raised by its suppliers about unstable availability of biomass, which raises serious concerns about the integrity of “sustainable” biomass when it becomes difficult to source.\textsuperscript{37}

Inditex, which encourages the use of responsibly sourced, certified biomass, also acknowledged that it is a “transition solution” in a response to Stand.earth\textsuperscript{38}.

Brands should invest in solutions that will not cause further harm to the people and ecosystems in their supply chains. This includes financially supporting manufacturers to transition to electric boilers where feasible, which will return emissions reductions as the grid greens over time, and investing in innovative dry processing technologies.

Deep transparency and clear messaging and reporting of sustainability data are essential to keep brands accountable to their targets, and to avoid the appearance of greenwashing.

Of the eleven industry giants assessed here, PUMA offered the deepest level of transparency into its supply chain energy transition. Inditex and SHEIN lagged furthest behind, offering limited supply chain data and no public supplier lists. SHEIN was the only brand to not even provide a breakdown of its Scope 3 emissions by category.

Just three out of 11 brands share information on the proportion of renewable energy sourced across the supply chain - Lululemon, Nike, and PUMA. PUMA provided the highest level of energy data transparency. It publishes its total supply chain energy and electricity demand. The company demonstrates significant transparency into Tier 1 and 2 energy data including regional breakdowns. This is essential to highlight the rate of progress towards coal phase-out targets and energy efficiency improvements. However, it is worth noting that PUMA’s reporting does not provide data on how the renewable electricity was sourced, concealing how much came from low-impact RECs. In future, PUMA should build on this transparency by disclosing data on how much of its supply chain renewable electricity is sourced from RECs and EACs compared with other sourcing methods.

No single company shared a full Tier 1 - Tier 4 supplier list. VF Corp has experimented with sharing Tier 1 to Tier 4 supplier lists for a select number of its most popular products, but this is limited to less than 100 items. PUMA shares a select few of its Tier 3 suppliers, according to its 2023 Global Factory List. None of the 11 brands explicitly shared a full total of production volume in tons of their apparel and footwear. Nike was the only brand to disclose any level of information on its production volume by weight. However, it only does this for its five most-used materials. Decreasing levels of production quantities by weight is a critical piece of the puzzle to reducing emissions across the supply chain. For as long as companies remain elusive about the quantities of production, we should question how genuine their climate commitments truly are.
Given the rapidly narrowing time window for effective climate action, transparency and commitments alone are now far from enough to establish climate leadership. Companies need to show that their actions are translating into effective decarbonization.

The data, where available, suggests that while brand actions are beginning to show fruit, there is still a significant gap between commitments and measurable progress. What’s more, the significant growth in SHEIN’s total GHG emissions to over 9 million tons CO2e in 2022, paired with news that it made $2 billion in profits last year alone, highlights how the rise in popularity of this e-commerce giant could hamper decarbonization progress, particularly as retailers such as SHEIN and Temu show rapid growth over more mass market retailers who have more established climate transition plans.

**Runway to 2030: Reducing Emissions**

The benchmark for keeping global heating below 1.5°C according to the UN’s 2019 Emissions Gap report was an emissions reduction of at least 55% by 2030, compared with 2018 levels.

Against this benchmark, only H&M Group, Levi Strauss & Co and PUMA appear to be sufficiently on track. This shows clear progress compared with previous scorecards. However, the remaining brands have reported an insufficient emissions reduction since 2019. In stark contrast, Lululemon’s emissions doubled since its baseline year of 2019.

As the runway to 2030 gets shorter, brands’ emissions need to rapidly decrease as climate and energy programs begin to demonstrate impact.

**Encouragingly, five brands assessed reported an emissions reduction in the past year (H&M Group, Adidas, PUMA, Nike and Levi Strauss & Co.), with double-digit drops from Adidas, PUMA and Nike.** However, significant growth among a few brands threatens to undermine that progress:

- In total four brands recorded double-digit percentage increases in Scope 3 Category 1 emissions between 2021 and 2022: SHEIN (46%), VF Corp (19%), Inditex (17.4%) and Lululemon (10.3%).

**ALARMING TREND**

Extreme absolute emissions growth from SHEIN and Inditex of around 3.1 million and 1.5 million additional tonnes CO2e compared with the previous year, reveals a dangerous trend from growing ultra fast fashion models.
### Renewable Electricity Progress

It is essential that brands are making significant progress towards transitioning their supply chains entirely to clean, renewable electricity by 2030, and not just their stores, offices and warehouses. According to Nike’s sustainability disclosure, the electricity demand in its Tier 1 and 2 manufacturing alone is more than 17 times higher than that of its stores and offices.\(^3\)

Analysis of these influential brands did find evidence of much needed progress, with PUMA reporting significant growth to 27.4% renewable electricity across core Tier 1 and 2 suppliers in 2023\(^4\). However, transparent reporting on supply chain renewable electricity remains extremely limited, and greater focus on high impact procurement over short-term REC/EAC purchases is needed.

Only brands clearly demonstrating progress in increasing their supply chain renewable electricity ratio were awarded against this benchmark, and points were awarded for brands prioritizing growth in PPAs and on-site generation.

Among the three brands which provided data, renewable electricity ratios in the supply chain remain low, but growing, with PUMA reporting 27.4%\(^5\), Lululemon 15%\(^5\), and Nike 7%\(^7\).

PUMA reported impressive progress in increasing the renewable electricity ratio of its supply chain, noting remarkable growth among Tier 2 manufacturers from 0.74% in 2017 to 47.2% in 2023.\(^8\) This is significant, however it is important to note that the figure includes the purchase of RECs by suppliers, which the company appears to place a heavy training emphasis on\(^9\). Over reliance on REC/EAC purchases to offset electricity use can certainly make it appear as though supply chains are decarbonizing, but may not have any impact on actually greening the grid or phasing out fossil fuels. (See pull-out box: Sourcing Matters: Why 100% Renewable doesn't mean 0% Fossil)

While there is some evidence that brands are also pursuing high-impact strategies, greater transparency is needed across the board to provide credibility. Nike’s renewable electricity ratio was 7% in 2022 across Tier 1 and 2,\(^6\) and like PUMA, the company does not disclose how much of that is unbundled REC purchases. However, in its reporting it anecdotally attributes its progress to the growth of its on-site solar program. Fellow sportswear brand Adidas does not provide sufficient data on its transition progress, but does report some data on high-impact sourcing. It reported that suppliers sourced more than 447,268 MWh from off-site renewable energy projects in 2023, stating that this was a 38% increase on the previous year\(^10\). PUMA also refers to the installation of rooftop solar PV as part of its program.

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<table>
<thead>
<tr>
<th>Company</th>
<th>2021 Manufacturing Emissions (Tons, CO2e)</th>
<th>2022 Manufacturing Emissions (Tons, CO2e)</th>
<th>Percentage Change, Manufacturing Emissions</th>
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<tbody>
<tr>
<td>SHEIN</td>
<td>6,283,000</td>
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<tr>
<td>VF Corp</td>
<td>3,417,000</td>
<td>4,068,000</td>
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<td>10,498,841</td>
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<td>Lululemon</td>
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<td>Gap Inc.</td>
<td>4,786,266</td>
<td>5,026,092</td>
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<td>Fast Retailing</td>
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<td>4,243,676</td>
<td>2.0%</td>
</tr>
<tr>
<td>Levi Strauss &amp; Co</td>
<td>2,129,301</td>
<td>2,108,469.07</td>
<td>-1.0%</td>
</tr>
<tr>
<td>H&amp;M Group*</td>
<td>6,746,000</td>
<td>6,172,000</td>
<td>-8.5%</td>
</tr>
<tr>
<td>Nike</td>
<td>9,679,222</td>
<td>8,476,358</td>
<td>-12.4%</td>
</tr>
<tr>
<td>PUMA*</td>
<td>1,278,578</td>
<td>991,864</td>
<td>-22.4%</td>
</tr>
<tr>
<td>Adidas*</td>
<td>6,041,553</td>
<td>4,503,000</td>
<td>-25.5%</td>
</tr>
</tbody>
</table>

As brands increasingly push their manufacturers towards renewable electricity in order to meet emissions targets, integrity in sourcing becomes more and more essential. Brands must provide transparent data about the extent of REC purchasing in their supply chains, prioritize purchasing that reduces reliance on fossil fuels where it is available, and advocate for it where it is not.

**Coal Phase-out and Clean Energy**
Progress towards phasing out thermal coal is also lacking transparency, but appears to be moving too slowly, and in some cases heading in the wrong direction as brands prioritize alternatives that may be as harmful as coal.

PUMA, Nike and Adidas, the only companies to be awarded points in this category, reported some progress in transitioning their thermal energy use and developing coal phase-out plans, but biomass is still providing a false solution. PUMA was the only brand to publicly report its total progress towards its coal phase-out target, reporting it to be 12% complete and 65% partially replaced. However, the company does not report what suppliers have transitioned into using and explicitly names biomass as a solution without defining the type of biomass sourced.62

Similarly, while Adidas reported some progress in phasing out coal, its progress is undermined by its choice of transition fuel. The company reports that by the end of 2023, more than 48 boilers had been modified or replaced with “low-carbon alternatives” such as biomass or natural gas, but does not report how many are still burning coal.63 The company also does not report the type of biomass used, and neither option provides an effective or sustainable long-term solution.

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**Sourcing Matters: Why 100% Renewable Doesn’t Mean 0% Fossil**

Unfortunately, “100% renewable energy” often doesn’t equate to 0% fossil fuel energy. How and where the electricity is procured is essential information when it comes to understanding whether it is actually helping to decarbonize and cut emissions. To effectively phase-out fossil fuels, electricity should be **additional** and **local to the grid** where the demand is.

Unbundled Renewable Energy Certificates (RECs), or Energy Attribute Certificates (EACs), are the cheapest mechanism by which companies can buy a claim to some renewable electricity that has been produced somewhere, and function much like a carbon offset for electricity emissions. These purchasing instruments are convenient, but have been shown to have little to no impact on actual emissions or decarbonization.64 This is because they generally do not increase the supply of new renewable energy that is created, and because they usually have no geographic connection to where the energy is being used, while the electricity actually being used still comes from the local grid.

Power Purchase Agreements (PPAs) on the other hand, involve a direct agreement to purchase energy from a specific renewable project, contributing to the expansion of clean energy capacity. PPAs often have a higher likelihood of being additional, and can be effective in displacing fossil fuels if they are also attached to the same grid where the electricity is being used, but this is not always the case. For example, Lululemon reports signing a Virtual PPA (VPPA) for a wind farm in Texas that came online in May 2022 which offsets the entirety of its North American demand65, despite Texas only representing a small part of its demand. **On-site electricity generation** can also be an impactful solution, as it is by definition both local and additional, although it can be expensive to install, of varying suitability, and limited to small scale projects which may not cover demand.

In countries where fashion supply chains are located such as Bangladesh, Vietnam, India and China, it is worth noting that procurement options for any renewable electricity can be limited, or unavailable. For example, PPAs are not currently available in Bangladesh, and unevenly available in China.66 Brands have an important role to play in advocating for appropriate and necessary policy changes to improve access across their supply chains.
This section analyzes how these influential corporations are engaging with their suppliers to improve energy efficiency, source renewable energy, and phase-out combustion of coal and other polluting energy sources at both the facility level, and regionally or internationally.

The emissions cuts needed by fashion brands to meet their goals and the needs of the climate crisis need to happen at the manufacturer level, across all tiers of the supply chain. Brands may have set targets, but to effect a rapid and resilient transition away from fossil fuels, brands need to show that they are not just demanding or requesting emissions cuts from their suppliers, but providing the effective support, training, information and, above all, financial structuring, resources, and supportive purchasing environment to make it happen without disadvantaging manufacturers.

Furthermore, brands need to be leveraging their political and financial power to actively invest, engage and advocate at a broader regional and international level to increase access to renewable electricity, grow nascent technologies and support a wider energy transition.

**Step 1: Training, Feasibility and Engagement**

Training programs and non-financial engagement with suppliers represent a helpful first step towards decarbonization and energy saving initiatives. There is considerable growth in the number of brands reporting this kind of engagement, which in order to be meaningful should be extensive, funded, tailored to the specific geographic and regional context, and available to a brand’s full supply chain. The Transformers Foundation’s 2023 report, *Towards a Collective Approach*, highlights Aii’s Clean by Design as an effective program to support suppliers in identifying energy-saving “quick wins.”

It is encouraging to find that all 11 brands reported providing some form of training, feasibility studies or non-financial resources for suppliers to decarbonize. However, the scale of these efforts varies hugely, and brands need to provide more effective reporting on the impact of their programs.

H&M Group, Nike, PUMA and Levi Strauss & Co. reported the most comprehensive, geographically targeted, and detailed engagement programs across their supply chains, with a few strong examples emerging:

- Levi Strauss & Co reported running a Renewable Energy Aggregate project in partnership with IFC and Deloitte where they report on working with 22 factories to engage them in renewable energy projects in Pakistan and 13 in Bangladesh.
- Nike demonstrates well established efforts through its Onsite Solar PV Consulting Program and its Renewable Electricity Procurement Guide.

Several brands appear to focus primarily on reporting mechanisms. Fast Retailing, for example, mostly cites the HIGG FEM process as means of training on energy efficiency and GHG emissions reduction for its suppliers.
Step 2: Fair Financing

While training programs are an important "step 1" for a brand's supply chain decarbonization journey, unless this is followed by financial support and equitable procurement policies, then their supply chain partners will not be able to make emissions cuts that are as fast or as deep as needed.

Industry analysis has uncovered the significant and dire gap that exists between the scale and urgency of needed efforts to decarbonize, and available funding. Research by Transformers Foundation identified a particular need for projects that would provide decarbonization benefits but offer no financial return, or take a long time to pay off. It emphasized that the vast majority of funding that is available is debt-based and therefore not necessarily feasible or attractive to suppliers who may be already overleveraged, or unwilling to take on debt.

In this group of brands, H&M Group emerged far ahead of its competitors in terms of its financial offerings. H&M Group's Green Investment Team is key to its financial policy, which appears to address some important decarbonization and equity considerations. In partnership with Guidehouse, H&M Group is developing a facility to enable brands to co-invest in supplier decarbonization, promoting shared brand responsibility for supply chain decarbonization, and has initiated a Green Loan Program to grant suppliers access to loans to retrofit facilities. Crucially, the company emphasizes the return on these investments is measured in GHG emissions reductions, not financial gain, and financing is available in the form of both grants and loans.

Other examples from brands emerged, however it is not clear that any offered financing that was not debt-based. For example, Levi Strauss & Co and Nike participate in the IFC GTSF Program+ which provides financing support through to suppliers that have begun implementing low-carbon investment plans and have conducted PaCT cleaner production assessments. This includes offering them access to lower-cost financing to support their efforts.

Even among brands that claimed to provide financial support, transparency and detail was poor.

Only very limited information was offered about the mode of delivery or the proportion of the supply chain it was available to. None of the companies, including H&M, were transparent about the specific value invested across their supply chains.

In addition, it is worth noting a lot of the financial support that brands are reporting is allocated through external efforts such as the sponsorship of the Vietnam Improvement Program (VF Corp) and participation in Aii Clean by Design Program (PUMA).

Step 3: Supportive Purchasing Policies

Beyond training and funding, brands have a responsibility to truly commit to being a partner in the supply chain decarbonization process. Creating more equitable...
purchasing policies that support and enable suppliers to phase-out fossil fuels, while accepting both the benefits and disadvantages, are an important part of showing that this is a mutual responsibility.

In practice, this means deliberately adjusting entrenched power dynamics by offering long-term contracts which provide stability for manufacturers during energy transition pay-back periods, and absorbing any price surges resulting from the additional costs taken on by suppliers to decarbonize. As long as these supportive systems are in place, purchasing policies that support decarbonization can also include consulting with manufacturers to set contractually bound and locally appropriate GHG emissions reduction and renewable energy targets, as well as mandatory emissions and energy reporting.

The research found that none of the brands assessed disclosed sufficient evidence that they are integrating ethical purchasing practices related to supporting a just transition.

From what is publicly communicated by brands and retailers, there is a focus on requirements and targets, but not stating how they as companies are contractually supporting suppliers through the transition like a partnership, as opposed to a transaction.

A handful of examples emerged whereby brands and retailers are using contracting and procurement requirements to further decarbonization methods, however it is important to note that without financial provision by brands and supportive purchasing practices, contractually obligated climate targets are not an equitable solution for manufacturers.

- PUMA sets high requirements that are written into supplier contracts. For instance, it requires details on GHG data, and requires suppliers to engage in emissions reductions activity through programmes like PaCT with IFC. The brand requires suppliers to purchase renewable energy, set science-based targets and has location-specific requirements for Chinese suppliers surrounding public disclosure of environmental performance.

- Levi Strauss & Co requires suppliers to follow energy management policies and programmes and provides a good benchmark. The company states that “By signing a contract with LS&Co., suppliers agree to have energy management policies and programs in place to reduce energy intensity and emissions production. Suppliers also agree to measure, manage, and disclose greenhouse gas emissions and carbon footprint to LS&Co.”

Committing to avoid new contracts unless certain conditions are met can also be an effective tool for brands, but has the potential to result in manufacturers being shut out of key opportunities. For example, H&M Group reported that they stopped onboarding new suppliers with coal boilers in January 2022 to support their coal phase-out. Inditex also states that from 2023 it will no longer certify any new suppliers or manufacturers who use coal as a source of energy.

One option to promote equity advanced by NGO Remake Fashion, is to implement and uphold a buyer code of conduct for responsible purchasing. This could set principles and practices that brands and retailers must uphold in regard to human rights, but also security surrounding supplier protection as they shift use of energy sources, regardless of cost or margin increases, and would represent an important step towards the redistribution of power between manufacturer and brand.

Renewable Energy Advocacy
As the world’s largest fashion brands and retailers, the companies investigated have significant purchasing power. This can act as a powerful voice, both within the industry and across the countries where supply chains are dispersed to advocate for policies to advance an energy transition. Brands and retailers should also not hesitate to demonstrate support for legislation that could legally require emissions reductions in the supply chain, such as the proposed New York Fashion Act.

When it comes to policy advocacy, H&M Group took by far the most active public position, engaging actively in support of Power Purchase Agreements and improved electricity grid connectivity in its production markets. Global efforts include collaboration with local
governments in Bangladesh, Cambodia, mainland China, India, Indonesia, Turkey and Vietnam.

In Bangladesh specifically, H&M Group supported the National Solar Roadmap to support the availability of PPAs, and committed significant direct investment in the energy transition. In December 2023 during COP28, H&M Group along with Danish retailer Bestseller, announced their investment in an early-stage off-shore wind farm development. If the development is successful it would have an approximate capacity of 500MW. Although the project is still far from being built, it represents a major investment in capacity growth connected to fashion industry demand.

Nike also emerged as an effective voice for renewable electricity advocacy. The company reported working directly in Indonesia, in collaboration with the Clean Energy Investment Accelerator, to help facilitate a bundled Renewable Energy Certificate agreement between Indonesia’s state owned electricity company and local manufacturing suppliers. This enables suppliers to purchase verifiable and traceable electricity at a fixed, competitive price for 10 to 15 years. As a result, the brand reported that 60% of electricity in finished goods factories in the country in 2023 were renewable and suppliers are targeting to source 100% renewable electricity by 2025. Nike also collaborated with USAID’s Vietnam Low Emission Energy Program (V-LEEP) to advocate for policy supporting the government’s renewable energy DPPA pilot. The company supported the U.S. State Department’s Clean Energy Demand Initiative.

On the other end of the spectrum, Fast Retailing and Lululemon failed to demonstrate direct political engagement to advance renewables, while e-retail giant SHEIN came under fire for spending hundreds of thousands of dollars lobbying the US government. It is concerning to note that several brands are members of industry initiatives and trade associations which run counter to decarbonization efforts. For example, both Gap Inc. and Nike’s CEO John Donahoe, are members of the Business Roundtable which opposed Build Back Better and the Inflation Reduction Act.
Company Scorecards

Detailed information on the individual progress, actions and recommendations for each company is available at the Fossil Free Fashion Hub.
Methodology

Data collected dates: January 8th - March 29th 2024

Selection of brands:
The Clean Energy Close Up investigation selected 11 global fashion companies to put their energy commitments and practice under the microscope. These brands were Adidas, Fast Retailing, Gap Inc., H&M Group, Inditex, Levi Strauss & Co, Lululemon, Nike, PUMA, SHEIN and VF Corp. Stand.earth chose these brands because they are well positioned to play an influential role in catalyzing broad change across the industry, and represent both more established and fast-growing actors.

Collection and sources of scorecard data
The performance of companies was evaluated based on publicly available data sources including corporate sustainability and annual reports, submissions to CDP, company websites and press releases. Information disclosed publicly has been cross referenced with company statements to verify accuracy.

Stand.earth shared individual scorecards and assessment details with each company prior to the publication of this report, inviting them to provide feedback and disclose any additional public information that was not captured in our data collection. Stand.earth assigned scores to each of the four categories, which contributed to the overall score of the company out of a possible total of 100.

In some areas, research was limited by a lack of public disclosure on supply chains from companies. This review is a small sample of global companies, offering a snapshot into what progress is being made towards the energy transition. Additionally, many of the renewable energy policies and transition plans from brands and retailers remain in their infancy, which makes assessing the social impact of efforts harder to measure at this time.

Impact methodology:
Four main impact areas and weighted consideration:
1. 1.5 °C Aligned Climate and Renewable Energy Commitments (10%)
2. Transparency (10%)
3. Progress Towards Benchmarks (40%)
4. Renewable Energy & Efficient Manufacturing: Actions, Engagement and Advocacy (40%)

Breakdown by category:
1. 1.5 °C Aligned Climate Commitments and Renewable Energy - 10%
   Stand.earth evaluated companies on the strength of their publicly stated commitments to reduce GHG emissions across their entire value chain in line with a 1.5°C pathway. Company performance was evaluated according to the following criteria:
   ■ Absolute greenhouse gas emissions target of 55% or greater by 2030 in own operations.
   ■ Commitment to 100% renewable energy in own operations. Renewable energy to be new and additional to the grid.
   ■ Absolute greenhouse gas emissions target of 55% or greater by 2030 in the supply chain.
   ■ Commitment to 100% renewable electricity in the supply chain by 2030. Renewable electricity to be new and additional to the grid.
   ■ Public commitment to phase-out coal-fired boilers from manufacturing by 2030 or earlier and transition to electric or dry processing alternatives. (In public materials outside of UN Fashion Charter)
2. **Transparency - 10%**
Stand.earth evaluated companies on levels of disclosure surrounding energy consumption and GHG emissions, as well as transparency on supply chains. The Scorecard assessed if companies had disclosed full information on:
- At least 3 years and a base year of GHG emissions performance from Scopes 1, 2 and 3 as well as a full breakdown by category of Scope 3 emissions.
- Public supplier lists, available to Tier 4
- Transparency on electricity and energy consumption in own operations, including sourcing
- Transparency on energy and electricity consumption in supply chain, with regional/geographic, tier level, or facility level breakdown, including sourcing

3. **Progress Towards Benchmarks - 40%**
For the first time for this Clean Energy progress update, Stand.earth used specific and measurable progress towards fossil fuel phase-out and emissions reduction benchmarks as a key scoring criteria. Company performance was evaluated based on:
- Supply chain emissions reductions achieved to date, compared with the benchmark of reducing emissions by 55% by 2030 compared with 2019 levels
- Progress towards 100% renewable electricity sourcing in stores, offices and warehouses (Scope 2), predominantly from high impact sources
- Progress towards 100% renewable electricity in the supply chain by 2030, prioritizing high impact sourcing
- Proportion of the brand’s supply chain by spend, or number of suppliers, transitioned off coal and onto electrification or low impact alternatives.

Leadership in this category involved active engagement and investment by brands to reduce fossil fuel energy demand and increase efficiency and renewables in their supply chains. Criteria included:
- Training, engagement, feasibility studies and other non-financial programs designed to reduce reliance on fossil fuels by energy efficiency measures, promote renewable electricity and promote a thermal energy transition, with detailed information about support offered and percentage of suppliers included.
- Fair financing of the energy transition: brands offering financial support for manufacturers to make capital investments and upgrades, in the form of grants, low-interest loans, collective action with other brands, and more, including detailed information on the scale of financing available and delivered, terms, and proportion of suppliers included.
- Supportive procurement policies: suppliers required and supported to transition to renewable energy and report energy data. Incentivization or requirement of suppliers to set appropriate targets, alongside ethical purchasing policies which provide stability for suppliers while undertaking decarbonization programs, e.g. long term contracting and green premium pricing.
- Advocacy for national or subnational policies to increase access to renewable energy or electricity in supply chain regions, end investments in coal power plants or fossil fuel infrastructure attached to the supply chain; support policies to expand access to renewable electricity procurement options in key supply chain markets.
- Investment in increase additional renewable energy access and procurement, particularly in supply chain regions (i.e. (Direct) Power Purchase Agreements, direct investment)


3 See brand scorecards for individual emissions pathway analysis.


10 See brand scorecards for individual emissions pathway analysis.


15 See brand scorecards for individual emissions pathway analysis.


PUMA's 10FOR25 targets cover its core business more sustainably.


Credits

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