Apparel and Footwear Sector
Science-based Targets Guidance
April 2018
Draft Guidance for Stakeholder Feedback

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To be added in final document.

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4. Introduction

4.1 Global Context

In the Paris Agreement, national governments committed to limit temperature rise to well below 2 degrees Celsius (°C) and pursue efforts to limit temperature rise to 1.5°C. Beyond these thresholds, the world will increasingly experience dangerously elevated amounts of sea-level rise, droughts, flooding, and other extremes.

Despite the efforts of governments and other actors, total anthropogenic GHG emissions continue to increase. Under current trajectories, global mean temperatures are projected to increase by 3.7 to 4.8°C by the end of this century. Even under existing country-level commitments, emissions levels in 2030 will be 24 to 60% higher than they should be under least-cost 2°C scenarios (UNFCCC Secretariat 2016).

Companies have a pivotal role in ensuring that the global temperature goals are met, but most existing company targets are not ambitious enough. The majority of global GHG emissions are either directly or indirectly influenced by the corporate sector. Many companies, recognizing the risk climate change poses to their business and the opportunity it creates for leadership and innovation, have already committed to change by setting emission reduction targets. To date however, most companies' targets have been incremental and do not match the ambition and timelines consistent with a 2°C future.

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The Science Based Targets Initiative (SBTi) is a collaboration between CDP, World Resources Institute (WRI), the World Wide Fund for Nature (WWF), and the United Nations Global Compact (UNGC) that aims to make science-based targets standard business practice by 2020. For more information, see www.sciencebasedtargets.org.

4.2 What are Science-Based Targets

The Intergovernmental Panel on Climate Change says that global GHG emissions must be cut by between 49 and 72% from 2010 levels by 2050 to stay within a 2°C global temperature increase (Clarke et al. 2014). An increasing number of scientists have indicated that a 2°C increase is too high to ensure climate stability and are calling for a limit of 1.5ºC (e.g. Schellnhuber et al. 2016).

In this guidance document, GHG emissions reduction targets are considered "science-based" if they are in line with the level of decarbonization required to keep global temperature increase within 2°C of pre-industrial levels.

4.3 Why Guidance for the Apparel and Footwear Sector

Given the significance of GHG emissions from the apparel and footwear sector and the growing number of companies[1] that have set or committed to set SBTs, WRI decided to develop this guidance to support companies in this process. Estimates of emissions from the sector vary: in a study published in February 2018, Quantis estimated that the apparel and footwear industries account for 8% of global GHG emissions (with an expected growth in emissions of 49% from the sector by 2030). The Ellen MacArthur Foundation found that the textiles industry accounted for 2% of the world's carbon budget in 2015, and this could increase to 26% by 2050.

With more people in emerging economies moving into the middle class and the continued growth in fast-fashion, the contribution of this sector to global emissions is likely to grow. According to McKinsey, global apparel production doubled between 2000 and 2014, and consumers keep most types of apparel only half as long as they did 15 years ago.

As of March 2018, three apparel companies (Kering, Marks & Spencer and Walmart) have approved science-based targets, while 18 others have committed to setting science-based targets.

[1] "Companies" in this document refers to entities across the AP/FW value chain - retailers, brands, finished goods manufacturers, mills, etc. - that are primarily engaged in activities that contribute to the production and sale of AP and FW products.

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4.4 Objectives of the Guidance

By developing guidance for setting SBTs for the apparel and footwear sector, the SBTi aims to mobilize companies globally to set ambitious, science-based GHG emissions targets for their operations and value chains. This guidance document aims to:

- Provide clarity on credible approaches to setting SBTs for operations and value chains;
- Increase consistency across companies' targets in the sector;
- Identify barriers for setting SBTs and provide recommendations to address these barriers;
- Define and provide examples of best practices; and
- Highlight opportunities for companies to collaborate in reducing emissions.

With the guidance published, the SBTi envisions that:

- By the end of 2018, 30 of the largest apparel companies have committed to set science-based targets.
- By 2020, 40 of the largest apparel companies have set science-based targets for their operation and ambitious targets for their supply chains.

4.5 Audience and How to Use this Document

This guidance document offers sector-specific guidance for apparel and footwear companies for setting science-based GHG reduction targets. The reader may find it useful to reference other existing tools including the GHG Protocol Corporate Accounting and Reporting Standard, the draft Science Based Target Setting Manual, and the Technical Guidance for Setting Scope 3 Emissions.

While this document offers examples of best practices for target setting, it is not intended to provide guidance on implementing GHG reduction measures. Companies may deploy a variety of measures to reduce GHG emissions (e.g. increasing energy efficiency, switching to renewable energy). Determining which strategy is most appropriate for any one company is beyond the scope of this document and the Science Based Targets initiative.

4.6 Guidance Development Process

Over the last nine months, WRI has gathered input from a variety of sources - an Expert Advisory Group created for this work, a variety of apparel and footwear companies, NGOs, consultants, and other individuals with sectoral and / or GHG accounting expertise. WRI shared and received feedback on "options papers" on particularly challenging areas (e.g. scope 3) with the Expert Advisory Group and a broader stakeholder group. WRI also leveraged existing resources like those listed above.

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5. The Business Benefits for Science-based Targets

Apparel companies committing to and delivering against SBTs benefit in several ways:

5.1 Build Business Resilience and Increase Competitiveness

By reducing GHG emissions from its operations and value chain, apparel and footwear companies can become more resilient and competitive in a low-carbon economy. Reducing emissions often translates to lower operational costs (e.g. energy, logistics), and mitigates exposure to fluctuations in the cost of fossil-fuel based inputs (energy or material).

To illustrate, electricity demand in Vietnam (a major sourcing country) is growing at 10% per year, and some experts believe the country faces power shortages unless significant investments in new capacity are made.

5.2 Drive Innovation and Transform Business Practices

Ambitious reduction targets can drive greater innovation and investment. Such targets can motivate employees from across the company to think beyond incremental changes to create new products, services, processes, and business models. See for example VF Corporation's articulation of the value it sees from circular business models such as resale and rental.

Stretch targets can also spur innovative financing practices across the value chain (e.g. carbon pricing, green bonds, preferential financing terms for better performing suppliers). For example, in November 2017, Taiwan's Far Eastern New Century announced the issuance of a TWD 3 billion ($101 million) green bond to fund projects including the recycling of polyester materials and waterless dyeing technologies.

5.3 Build Credibility and Meet the Expectations of Stakeholders

SBTs represent a rigorous, objective approach to setting stretch goals and help create a pathway for meaningful GHG emission reduction efforts. Setting targets backed by an external community of climate experts lends credibility to corporate sustainability goals and can enhance a company's reputation in the eyes of its employees, customers, policy makers, environmental groups, and other stakeholders. In particular, investors are showing greater interest in climate disclosure and ambitious targets: since 2010, there has been a 54% increase in the number of institutional investors requesting disclosure of climate change, energy and emissions data through CDP (CDP 2015b).

5.4. Influence and Prepare for Shifts in Public Policy

Setting and achieving SBTs can reduce a company's exposure to more stringent emissions and energy regulations, helping it smoothly adapt to regulatory and policy changes that might otherwise impact daily

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business operations and impede financial growth. Leading companies' adoption and implementation of SBTs also demonstrates the technical and economic feasibility of low-carbon production for policymakers and other stakeholders.

Companies with SBTs can also influence policy by signaling their support for low-carbon policies and creating demand for low-carbon technology pathways and renewable energy solutions that would benefit from more favorable policy conditions.

6. Key Issues in Setting SBTs

From interviews with several dozen individuals from apparel and footwear companies, consultancies, and other organizations, the below topics were raised as key to address in this guidance document. We offer this not as a definitive and complete list, but rather to highlight frequently mentioned topics.

- What to include in scope 3: For many apparel and footwear companies, scope 3 emissions (e.g. purchased goods and services, use phase) exceed 40% of total emissions and thus must be included. Yet, many companies have limited visibility and less influence in these areas.
- Absolute vs. intensity metrics: Absolute targets are challenging for growth companies. What are the most appropriate SBT approaches for such companies?
- Obtaining high quality data: The apparel and footwear supply chain is expansive, dynamic and complex – obtaining accurate and complete data on GHG emissions is thus challenging, and becomes more so further upstream (see value chain illustration in section 7).
- Resources for accounting vs. reducing emissions: Companies have limited human and financial resources to address emissions. Resources spent on collecting data may come at the expense of emission reduction projects.
- Durability and end of life: According to select research (e.g. WRAP), there are GHG benefits in extending the useful life of products, and new business models are emerging (e.g. The Renewal Workshop). How might companies set credible targets for this phase?
- Accounting for recycling and downcycling: Various brands are working on textile recycling – chemically or mechanically converting scrap material from across value chain. How might this factor into targets?
- Accounting for use phase: Use phase emissions for apparel can be significant, and companies make various assumptions for these calculations. If brands / retailers set targets for use phase, what would make these credible?
- Addressing packaging: While packaging is not a major contributor to the sector's GHG emissions, it is highly visible and companies may have more influence. How should packaging be addressed?
- Tradeoffs between GHGs and other impacts: It's important to recognize the tradeoffs companies face, for example synthetics generally have a lower GHG footprint than cotton and wool, but they result in synthetic microfibers ending up in aquatic ecosystems. How do we acknowledge these tradeoffs in the guidance?

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- **Approach for retailers of multiple brands:** Retailers may sell many brands, and so the supply chain visibility and lack of influence challenge is multiplied. How should retailers of multiple brands address this in setting scope 3 targets?

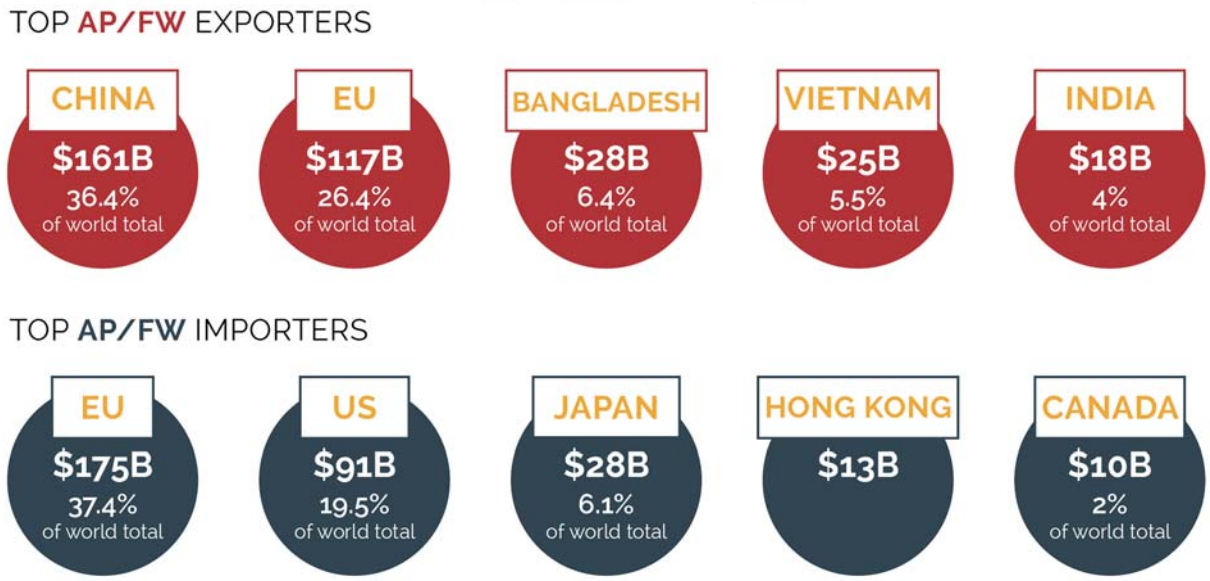
7. Overview of the Apparel and Footwear Industry

In presenting guidance on SBTs for the apparel and footwear sector, it is important to provide an overview of the sector in terms of its global reach, economic activity, and trends. Data points from several sources are available and no one source is recommended.

7.1 Sector Economics

According to research from the Boston Consulting Group and the Global Fashion Agenda, the global apparel and footwear industry had sales of EUR 1.5 trillion in 2016, and this is projected to increase to EUR 2 trillion by 2030.[2] The industry employs over 60 million people globally, and women represent the vast majority of the workforce in manufacturing (as much as 74% to 81% in Cambodia, Vietnam and Thailand).

Figure 1: Global Trade in Apparel and Footwear in 2016



Source: World Trade Statistical Review 2017, WTO

The AP/FW sector is a significant economic force in various emerging economies. For example, the sector accounts for 80% of export earnings and 20% of GDP in Bangladesh, and is the second largest earner of foreign currency in Vietnam, generating $27B from export in 2016.

[2] At today's exchange rates, these figures translate to $1.88 trillion and $2.5 trillion.

7.2 Key Trends

The apparel and footwear industry is dynamic and fast moving, and certain trends will influence sector GHG emissions in the future. For example:

- According to McKinsey and Business of Fashion, 2018 will be the first year that more than 50% of apparel and footwear sales will occur outside of North America and Europe.
- Brands and retailers are competing to get product to market faster, which has implications across the value chain (manufacturing locations, methods of manufacture, logistics choices, etc.).
- Companies are also competing to automate the apparel and footwear production process, which promises efficiencies (e.g. in labor) but could also increase energy consumption depending on the technology.
- The evolution of digital technology is impacting the value chain in various ways, most notably in the shift from physical stores to online retail. Technology can also bring efficiency and reduce waste, for example in the product design process (e.g. fewer samples).
- Most of the apparel and footwear companies that have committed to SBTs are from North America, Europe, and Japan, and these have generally been the companies out in front on other environmental issues (e.g. Gap, H&M, Levi's, Nike). However, there are a growing number of "local" brands and retailers emerging in markets such as China and India, and new players have emerged elsewhere (e.g. Amazon).[3]
- With technology as an enabler, a variety of new business models have emerged with the potential to lower environmental impacts (see for example Grailed, The Renewal Workshop, ThredUP, Tradesy, VillageLuxe).

7.3 Value Chain Illustration

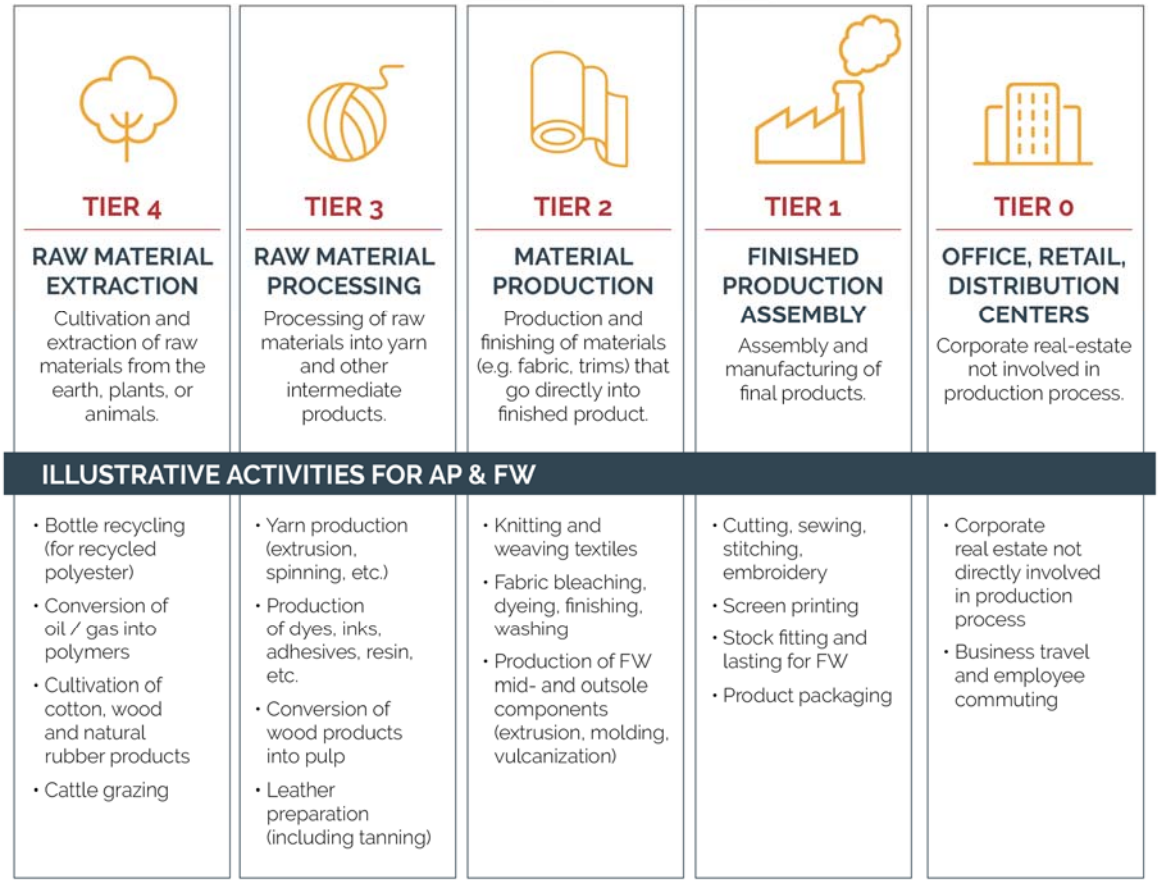
Those in the industry often describe the supply chain according to tiers. Below is a visual depiction of these tiers.

[3] Also note that apparel and footwear brands and retailers are the vast majority of the companies thus far committed to setting SBTs.

Figure 2. Apparel and Footwear Value Chain

Source: Authors

Figure 3. Apparel and Footwear Value Chain Tiers*



*Many companies describe the AP and FW value chain according to the above tiers. We did not attempt to capture the nuances across the many materials used in AP and FW.

Source: Authors

8. How to Set a SBT for Scope 1 and 2 Emissions

Companies' scope 1 and 2 emissions are the starting point for setting science-based targets. While the scope 1 and 2 portion of total emissions is usually higher among manufacturing companies than brands and retailers, all companies are required to set scope 1 and 2 targets consistent with 2-degree climate stabilization. This section presents SBTi criteria for scope 1 and 2 target assessment, as well as target examples and discussion.

8.1 SBTi Criteria and Recommendations

This document contains current SBTi criteria and recommendations as of 2018. Companies are advised to check the SBTi website (http://sciencebasedtargets.org) to view subsequent updates. All companies are subject to the six target review areas described below; the criteria are required and the recommendations are for companies' consideration.

8.1.1 Science-based Target Boundary

The first group of criteria ensure that company targets cover all company emissions and all greenhouse gases, with minimal exclusions.

Criteria 1. Scopes: The target must cover company-wide scope 1 and scope 2 emissions, as defined by the GHG Protocol Corporate Standard.

Criteria 2 Significance thresholds: Companies may exclude up to 5% of scope 1 and scope 2 emissions combined in their inventory and target.

Criteria 3. Greenhouse gases: The targets must cover all relevant GHGs as required per the GHG Protocol Corporate Standard.

8.1.2 Recommendations and Additional Guidance

Recommendation 1. Subsidiaries: It is recommended for only the parent company to submit targets; however, subsidiaries may submit separate targets if they so wish. In cases where both parent company and subsidiaries submit targets, they must make it clear whether the parent company's target includes or excludes the target of the subsidiary. Please see boundary criteria above.

Recommendation 2. Avoided emissions: Avoided emissions fall under a separate accounting system from corporate inventories and do not count toward science-based targets.

8.1.3 Timeframe

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Criteria 4. Base and target years: All targets must cover a minimum of 5 years and a maximum of 15 years from the date the target is submitted to the SBTi for an official validation.[4]

Criteria 5. Progress to date: Targets that have already been achieved by the date they are submitted to the SBTi are not acceptable. Targets should be forward-looking and ideally should not cover progress to date already made by the company. The SBTi uses the year the target is submitted to the initiative (or the most recent publicly-available GHG inventory) to assess forward-looking ambition. Future emissions reductions must be at least 1.7% per year when using absolute contraction, as per the low end of the range of the emissions scenarios consistent with the 2°C goal, or aligned with the relevant sector reduction pathway within the SDA.[5]

8.1.4 Recommendations and Additional Guidance

Recommendation 3. Base year: The SBTi recommends choosing the most recent year for which data are available as the target base year.

Recommendation 4. Target year: Companies are encouraged to also develop long-term targets (e.g. 2050) in addition to the required mid-term targets.

Recommendation 5. Consistency: It is preferable that companies use the same base and target years for all targets within the mid-term timeframe and all targets within the long-term timeframe.

Recommendation 6. Progress to date: Targets should be forward-looking and ideally should not cover progress to date already made by the company.

8.1.5 Overall Target Ambition

Criteria 6. Level of ambition: At a minimum, the target will be consistent with the level of decarbonization required to keep global temperature increase to 2°C compared to pre-industrial temperatures, though we encourage companies to pursue greater efforts towards a 1.5° trajectory. See text below for discussion of methods for assessing target ambition.

Criteria 7. Absolute vs. intensity: Intensity targets are only eligible when they lead to absolute emission reduction targets in line with climate scenarios for keeping global warming below 2°C or when they are modelled using an approved sector pathway or method approved by the Science Based Targets initiative (e.g. the Sectoral Decarbonization Approach).

[4] For targets submitted for an official validation in first half of 2018 the valid target years are 2022-2032 inclusive. Those submitted in the second half of 2018 must be between 2023 and 2033.

[5] The minimum absolute reduction rate is sometimes described as 1.23%--this is linearly derived (-49/40=1.23), while 1.7% is the reduction rate in compounding terms ((.983)^40=51). In either case, the minimum reduction between 2010 and 2050 is 49% per IPCC AR5.

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Criteria 8. Method validity: Targets must be modeled using the latest version of methods and tools approved by the initiative. Targets modeled using previous versions of the tools or methods can only be submitted to the SBTi for an official validation within six months of the revision.

Criteria 9. Combined scope targets: Targets that combine scopes (e.g. 1+2 or 1+2+3) are permitted; however, when a company has a combined scope 1, 2, and 3 target, the scope 1 and 2 portion of the target must be in line with climate science.

8.1.6 Recommendations and additional guidance

Recommendation 7 - Choosing an approach: The SBTi recommends using the most ambitious decarbonization scenarios that lead to the earliest reductions and the least cumulative emissions.

Recommendation 8 - Offsets: The use of offsets is not counted as reductions toward the progress of companies' science-based targets. The SBTi requires that companies set targets based on emission reductions through direct action within their own boundaries or their value chains. Offsets are only considered to be an option for companies wanting to contribute to finance additional emission reductions beyond their science-based targets.

8.1.7 Scope 2 Ambition

Criteria 10. Approaches: Companies shall disclose whether they are using a location or market-based approach as per the GHG Protocol Scope 2 Guidance to calculate base year emissions and to track performance against a science-based target.

Criteria 11. Renewable energy targets: Targets to source electricity from renewable sources are considered acceptable Scope 2 formulations whenever the share of electricity coming from zero-emission sources is consistent with the share of non-fossil energy generation in 2ºC decarbonization scenarios.

8.1.8 Recommendations and Additional Guidance

Recommendation 9 - Heat and steam: For science-based target modelling purposes, it is recommended that companies model heat and steam related emissions as if they were part of their direct (i.e. scope 1) emissions.

Recommendation 10 - Efficiency: If not already embedded in the science-based target setting method, it is recommended that electricity-related Scope 2 targets are modelled taking into account efficiency gains for the specific sector and the decarbonization projected for the power sector based on below 2ºC scenarios.

See the following section for SBTi scope 3 target criteria and recommendations.

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8.1.9 Reporting

Criteria 18. Frequency: After setting and publishing a SBT, the company will publicly report its company-wide GHG emissions inventory and progress against their targets on an annual basis.

8.1.10 Recommendation and Additional Guidance

Recommendation 13 - Where to disclose: There are no specific requirements regarding where the inventory should be disclosed, as long as it is public. Recommendations include annual reports, sustainability reports, the company's website, and/or CDP's annual questionnaire.

8.1.11 Recalculation

There are no required criteria regarding companies' target recalculation after initial publication.

Recommendation 14. Target recalculation: To ensure consistent tracking of performance over time, the target should be recalculated, as needed, to reflect significant changes that would compromise its relevance and consistency. The SBTi recommends that companies check the validity of their target projections annually. At a minimum, targets should be reassessed every five years. The company should notify the SBTi of any significant changes and report these major changes publicly, as relevant.

A target recalculation should be triggered by significant changes in:

- Company structure (e.g. acquisition, divestiture, mergers, insourcing or outsourcing)
- Growth projections
- Data used in setting the target (e.g. discovery of significant errors or a number of cumulative errors that are collectively significant)
- Inventory processes (this will require a recalculation of the base year inventory)
- Other projections/assumptions used with science-based target-setting methods

8.2 Examples and Discussion

As of April 2018, the SBT has approved more than 100 companies that meet all of the above criteria. The first apparel and footwear company to publish an approved SBT was Kering, the French luxury group. The target is worded as follows:

Kering commits to reduce scope 1, scope 2 and scope 3 emissions from upstream transportation and distribution, business air travel and fuel-and-energy related emissions 50% per unit of value added by 2025 from a 2015 base-year. In addition, the company commits to reduce scope 3 emissions from purchased goods and services 40% per unit of value added within the same time-frame. This is part of their overall goal to reduce environmental impacts upstream, such as air emissions, water use, water pollution, land use change and waste.

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8.3 Methods for Setting Science-based Targets

The table below summarizes available methods for assessing the ambition of company mitigation targets.

Table 1: Summary of Scope 1 and 2 Target Setting Methods

Method	Absolute contraction, C-FACT, Sectoral Decarbonization Approach (SDA) - heterogeneous sectors	Sector Decarbonization Approach (SDA) - homogeneous sectors	GEVA methods (GEVA, CSI, CSO)
Allocation mechanism	Contraction of absolute emissions	Convergence of physical intensity	Economic intensity in line with absolute contraction
Results in terms of absolute emissions reductions	Absolute emissions are always reduced if the emissions scenario used has a decreasing trend. In some peak and decline scenarios (e.g., ETP 2DS pathways for chemicals), emissions increase until around 2020, and then start rapidly declining. All scenarios lead to absolute reductions in the long-term. The lowest acceptable threshold for absolute reductions is an annual rate commensurate with 49 % below 2010 by 2050. This is equivalent to a 1.7% compound annual reduction rate, which is sometimes described as 1.23% in linear terms (-40/40=1.23)	Emissions are allocated among companies within a sector by market share of physical production. In this method, total sector emissions decline in line with a 2-degree pathway while companies can redistribute emissions among themselves by changing market share. The SDA tool includes a cap for the market share parameter to ensure the total sector carbon budget is conserved. Aggregation of companies by physical production is only feasible in homogenous sectors.	The more a company contributes to economic output, the more emission allowances it receives, since targets are expressed in terms of emissions per unit value added. This method combines the absolute emissions pathway described by absolute contraction with an economic denominator.

Source: Authors

In the absence of sector- or commodity-specific 2-degree pathway information, apparel and footwear companies are encouraged to use the absolute contraction approach to inform the ambition of their scope 1 and 2 emissions reduction targets. The absolute contraction approach offers the simplest and most transparent approach for linking company mitigation ambition with 2-degree outcomes. If most emissions are from scope 2 then companies are also encouraged to use the SDA pathways for electricity generation. Other methods, approaches, and resources can inform apparel and footwear company target

setting in selected circumstances (e.g. SDA commercial buildings emissions intensity pathways in gCO_2/m^2).

9. How to Set a Scope 3 Target

The complexity of supply chains and diversity of companies and products make scope 3 target-setting the most challenging aspect of science-based targets for the majority of apparel and footwear companies. This section reviews SBTi scope 3 criteria, target examples, and the target review process. As with the scope 1 and 2 criteria discussed above, this section is intended for all companies along the apparel and footwear value chain including brands, retailers and manufacturers. This section of the guidance is intended to support these companies in setting scope 3 SBTs in conformance with the target validation criteria of the SBTi. See the Corporate Value Chain (Scope 3) Accounting and Reporting Standard for greater detail on scope 3 accounting. The figure below summarizes the 15 categories of upstream and downstream scope 3 emissions. For discussion of scope 3 category boundaries and related issues, see scope 3 standard, chapter 5.

Figure 4: Scope 3 Categories

Upstream or downstream	*Scope 3 category*
Upstream scope 3 emissions	1. Purchased goods and services 2. Capital goods 3. Fuel- and energy-related activities (not included in scope 1 or scope 2) 4. Upstream transportation and distribution 5. Waste generated in operations 6. Business travel 7. Employee commuting 8. Upstream leased assets
Downstream scope 3 emissions	9. Downstream transportation and distribution 10. Processing of sold products 11. Use of sold products 12. End-of-life treatment of sold products 13. Downstream leased assets 14. Franchises 15. Investments

Source: GHG Protocol Corporate Value Chain (Scope 3) Standard

9.1 Scope 3 Criteria (for target validation by the SBTi)

The scope 3 criteria are more flexible and less prescriptive than the scope 1 and 2 criteria described above to account for varying company circumstances and leverage. These criteria apply to all apparel and footwear scope 3 targets submitted to the SBTi.

Criteria S3.1. Requirement to have a Scope 3 target**:** Companies must complete a scope 3 screening for all relevant scope 3 categories in order to determine their significance as per the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. If a company's scope 3 emissions are at least 40% of total scope 1, 2, and 3 emissions, a scope 3 target is required.

Criteria S3.2. Boundary: Companies must set one or more emission reduction targets that collectively cover at least 2/3 of total Scope 3 emissions.

Criteria S3.3. Target formulation: Emission reduction target(s) shall clearly demonstrate how the company is addressing the main sources of GHG emissions within their value chain. i.e. the target(s) shall explicitly state which Scope 3 categories (or specific emissions sources within a category) are addressed and give justification for those categories that are not included.

Criteria S3.4. Timeframe: Emission reduction targets must cover a minimum of 5 years and a maximum of 15 years from the date the target is submitted to the SBTi for an official validation.

Criteria S3.5. Level of ambition: Emission reduction targets, covering the entire value chain or individual Scope 3 categories, are considered ambitious when they fulfill ***any*** of the criteria below:

- *CS3.5.1. Absolute:* Absolute emission reduction targets that are consistent with the level of decarbonization required to keep global temperature increase below 2°C compared to pre-industrial temperatures.
- *CS3.5.2. Intensity:* Targets that lead to a reduction of physical or economic emissions intensity – for the entire value chain, or for individual Scope 3 emission categories – whenever this reduction in intensity is consistent with the level of decarbonization required to keep global temperature increase below 2°C compared to pre-industrial temperatures.
    - Other emission reduction targets will be considered if the company can demonstrate that the target is ambitious and does not result in absolute emissions growth.

Criteria S3.6. Non-emission-based targets: Substitute target formulations for specific Scope 3 emission categories are acceptable as defined below:

- *CS3.6.1. Supplier engagement targets:* Targets to drive the adoption of science-based emission targets are considered acceptable Scope 3 formulations whenever the following conditions are met:
    - *CS3.6.1.1. Boundary:* Targets must cover the most relevant suppliers by emissions or by spend. Relevant suppliers are defined as those suppliers that represent ***either*** 2/3 of cradle to gate (i.e. Scope 3 categories 1, 2, 3, 4, 5, 6, and 8) emissions or 2/3 of annual procurement spend.
    - CS3.6.1.2. Level of ambition: Suppliers shall set SBTs on their Scope 1 and Scope 2 emissions, as a minimum. Inclusion of Scope 3 emissions from suppliers is encouraged.
    - *CS3.6.1.3. Timeframe:* Supplier engagement targets must cover a maximum of 5 years from the date the target is submitted to the SBTi for an official validation.

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- *CS3.6.2. Targets on use phase emissions for apparel:* Targets to influence the behavior of end-users (e.g. education campaigns) or to drive the adoption of science-based targets on corporate customers (e.g. customer engagement targets) are not required but are encouraged when these emissions are significant. Section 11, below, discusses available data and methods for estimating use-phase emissions of apparel and footwear. Recommendations in shaping use-phase targets include:
    - *CS3.6.2.1. Boundary:* Targets must cover most relevant markets by emissions or by sales. Relevant markets are defined as retail or corporate customers that represent, when not combined with other Scope 3 emission reduction targets, ***either*** 2/3 of product-use phase emissions (i.e. Scope 3 emissions, Category 11: Use of sold products) emissions or 2/3 of annual sales. Targets to reduce absolute emissions or emissions intensity for indirect product use phase emissions are optional and do not count towards C12.
    - CS3.6.2.2. Level of ambition: Ambition of targets to influence the behavior of end-users will be assessed individually by the SBTi.
    - *CS3.6.2.3. Timeframe:* Targets on product-use phase emissions must cover a maximum of 5 years from the date the target is submitted to the SBTi for an official validation.

9.2 Emerging types of scope 3 targets

Companies set a range of targets for scope 3 emissions reductions that reflect a variety of upstream and downstream sources, as well as diverse and sometimes fragmented supply chains. This section describes advantages and disadvantages of different, general classes of scope 3 targets. In general, percentage-based emissions reduction targets are preferred over non-emissions-based targets, which should only be set when a company cannot acquire the emissions data needed to set the former. If a goal is set around engaging a certain percentage or number of suppliers, then the engagement must be oriented around suppliers setting their own science-based targets within five years of the date of announcement.

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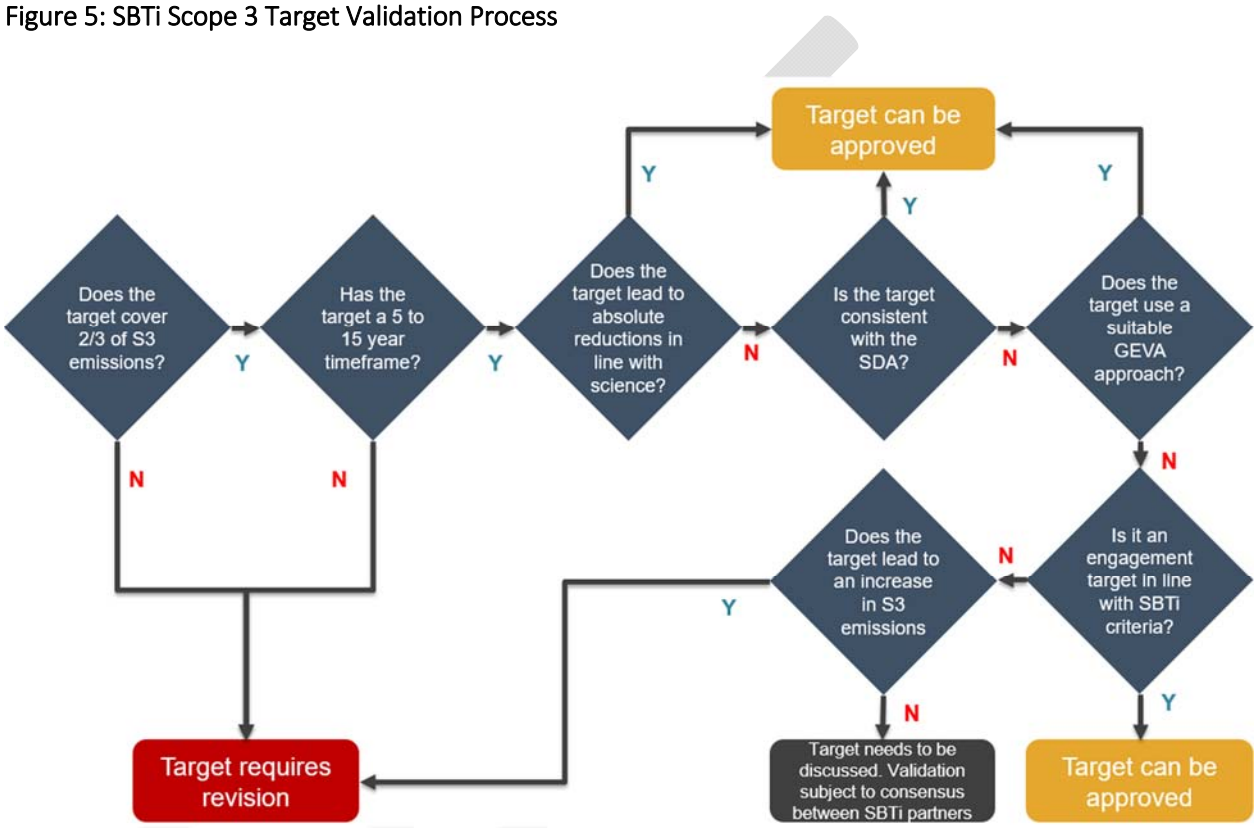
Table 2: Preference Hierarchy for Scope 3 Targets

TARGET		EXAMPLES	ADVANTAGES	DISADVANTAGES
Percentage- based emissions reduction targets	Percentage-based absolute emissions target (in line with 2˚C pathway when possible) or intensity target based on the SDA	**Kering**: Reduce emissions by 50% in scope 1, scope 2 and scope 3 (transportation and distribution, business flights, fuel and energy related emissions) by 2025, and reduce an additional 40% of scope 3 emissions from purchased goods and services **Swisscom**: Reduce scope 3 emissions 18% by 2020 from 2013 levels	• Transparent about direction of change in absolute emissions and/or emissions intensity • Target ambition easier to compare across companies	• Can be challenging to set for scope 3 sources over which a company has little influence
	Other percentage-based emissions intensity target resulting in ambitious reductions in absolute emissions	**McDonald's Corporation:** Partner with franchisees to cut GHG emissions to McDonald's restaurants and offices by 36% by 2030 from a 2015 base year. Through collaboration and partnership with its suppliers and producers, McDonald's also commits to a 31% reduction in emissions intensity (per metric ton of food and packaging) across its supply chain by 2030 from 2015 levels.		
Non-emissions- based targets	Performance-based target expressed in absolute or intensity terms	**AMD**: Improve the compute performance per watt of energy consumed by mobile APU processors 2500% by 2020, from 2014 levels	• Does not require emissions data from value chain partners	• Not transparent about direction of change in absolute emissions
	Target to influence the behavior of suppliers or customers	**Marks & Spencer**: Reduce GHG emissions by 80% in its own operations by 2030 (compared to 2007 levels) and, during the same period, cut emissions in its supply chain by 13.3m tonnes.	• May be useful if a company has yet to identify levers for more specific reduction opportunities amongst its value chain partners • Reduction behaviors may benefit other customers of the same supplier • Useful when company has mostly indirect spend, such that its best reduction lever is to ask suppliers to reduce their emissions (since company does not spend enough to warrant collaborations)	• May not be effective in driving ambitious reductions in the emissions from purchased goods and services if majority of emissions come from tier 2 suppliers or beyond • May not foster collaboration along the value chain

Source: Authors

An example of a supplemental use-phase engagement target is provided by Procter & Gamble. The company committed to reduce emissions from operations 30% by 2020 from a 2010 base-year. Within this timeframe, the company will also address the main source of emissions across its value chain by measures including: ensuring that 70% of all washing machine loads are washed in cold water, doubling the use of post- consumer resin in plastic packaging and ensuring zero deforestation in the palm oil supply chain. As discussed above, use-phase engagement targets are not sufficient for assuring scope 3 mitigation, but in some cases may be worthwhile for influencing customer behavior.

Figure 5: SBTi Scope 3 Target Validation Process



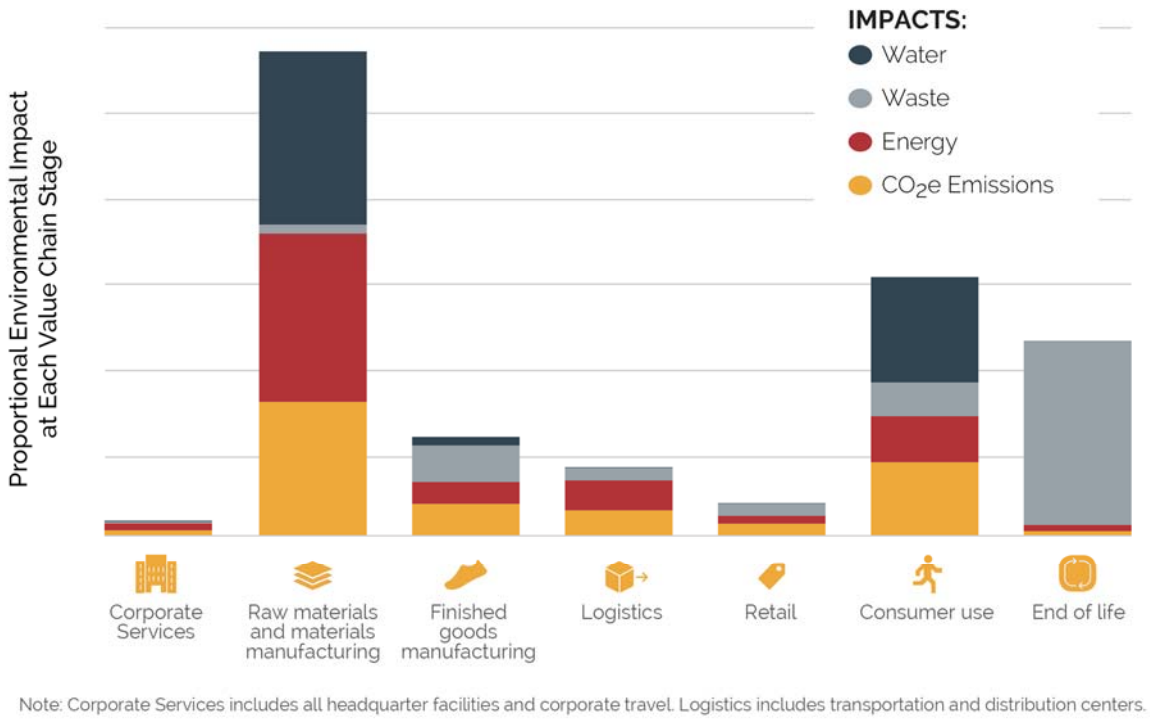
The figure above is designed to inform all companies' scope 3 target validation processes. In the case of apparel and footwear companies, the SDA does not include sector-specific information for setting and approving a scope 3 target. A suitable GEVA approach is an economic intensity target that results in absolute scope 3 emissions reductions, or at the minimum no growth of the company's scope 3 emissions over the target period.

10. Additional Guidance on Purchased Goods and Services (Category 1)

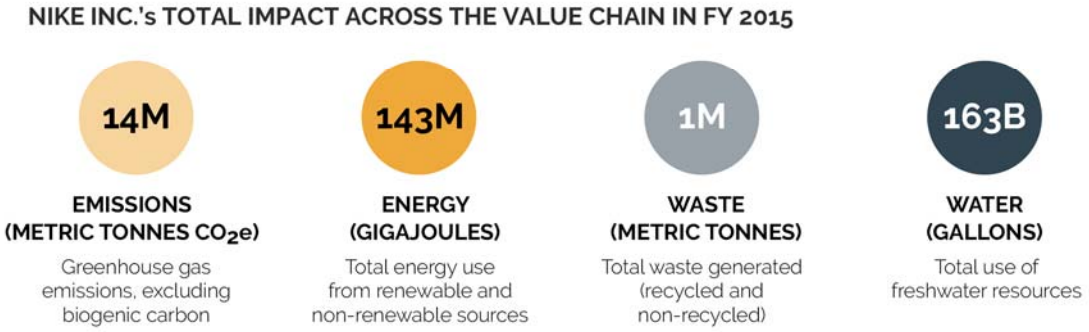
10.1 Overview and Context

For many apparel and footwear companies, purchased goods and services represents a significant portion of scope 3 (and overall) emissions.

Figure 6: Nike Inc.'s Value Chain Footprint in FY 2015

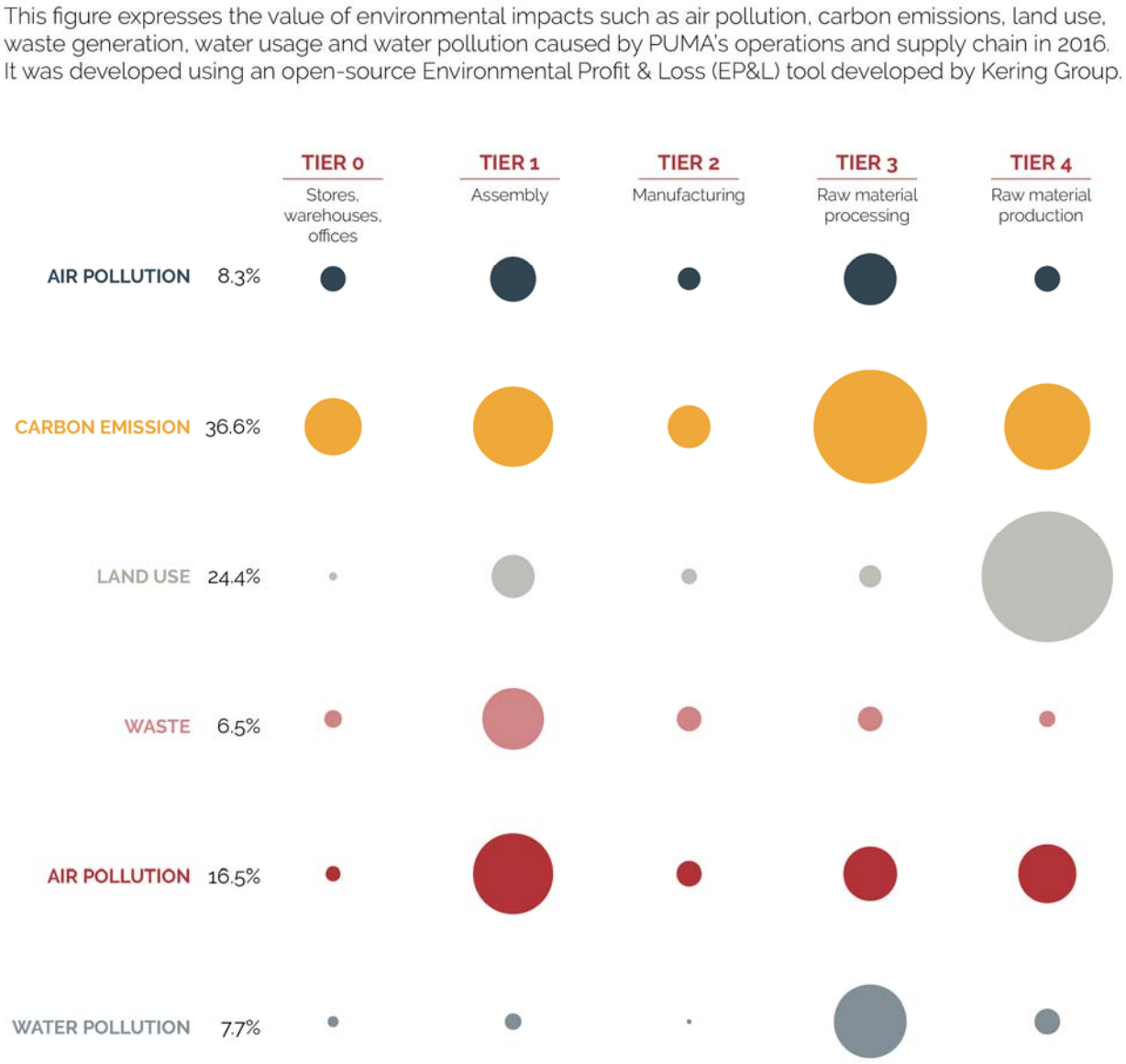


Note: Corporate Services includes all headquarter facilities and corporate travel. Logistics includes transportation and distribution centers.



Source: Adapted from Nike's FY14/15 Sustainable Business Report.

Figure 7: PUMA's Environmental Impact in 2016



Source: This figure is adapted from PUMA's Environmental Profit and Loss Account and is for illustrative purposes.

As illustrated in the Nike and Puma examples, the most significant GHG sources in the apparel and footwear supply chain are generally in the production of raw materials such as leather, polyester and cotton.

The apparel and footwear supply chain is expansive, geographically dispersed and dynamic. Generally speaking, companies have contractual relationships with suppliers one tier away – with this comes some influence and ability to gather data. Beyond the immediately adjacent tier, influence and visibility into data declines. This said, brands often dictate the material suppliers (tiers 2 and 3) that finished goods

manufacturers (tier 1) must use, and thus can exert influence. In these cases, tier 1 suppliers will have limited to no ability to reduce emissions further upstream.

For apparel, most factories (and mills) serve multiple customers and so the influence that any one customer has is limited. This is relevant when a supplier considers investments to reduce emissions. This said, suppliers serving multiple customers (tier 1 manufacturers, brands, etc.) can potentially drive greater impact.

Because of the above, companies cannot typically trace materials back to their sources, and have limited visibility into data and practices upstream. Companies may have some primary data for select suppliers, but generally speaking, companies must rely on secondary data.

Sustainability is increasingly becoming a sourcing criterion for brands and retailers, as well as tier 1 and 2 suppliers. This said, sustainability may be defined differently across companies, and it is often deprioritized relative to 'traditional' metrics (e.g. cost, quality, delivery time).

10.1 Methods for Calculating Emissions from PG&S

The *Technical Guidance for Calculating Scope 3 Emissions* describes the methods companies may use to calculate scope 3 emissions from purchased goods and services. These are:

- Supplier specific: Collects product-level cradle-to-gate GHG inventory data from goods or services suppliers.
- Hybrid: Combination of supplier-specific activity data (where available) and secondary data to fill the gap.
- Average data: Estimates emissions by collecting data on the mass or other relevant units of goods or services purchased and multiplying by the relevant secondary emission factors (from sources such as Higg MSI and World Apparel Lifecycle Database).
- Spend-based: Estimates emissions by collecting data on the economic value of goods and services purchased and multiplying it by relevant secondary emission factors.

10.1.1 Data Sources

In calculating GHG emissions from purchased goods and services, a company is free to use the life cycle database of its choosing, with consideration of the transparency, completeness, and applicability of the database. While WRI does not endorse any one database, there is increasing industry alignment around the Higg Index from the Sustainable Apparel Coalition. Other companies are using the World Apparel & Footwear Lifecycle Assessment Database from Quantis.

For more information on data quality indicators, see table 7.6 in the *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*.

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10.1.2 Options for Setting Targets for Purchased Goods and Services

Companies can set absolute or intensity targets, or some combination of each:

- Absolute target: reduction in GHG emissions over time in units of metric tons of CO2e.
- Intensity target: reduction in the ratio of GHG emissions relative to a business metric, such as output, production, sales or revenue.
- Supplier engagement target: Companies obtain commitments from their tier 1 suppliers to set science-based reduction targets or engage with suppliers to generate a specific amount of GHG emissions reductions (e.g. Walmart and HPE).
- See table 9.2 of Corporate Value Chain (Scope 3) Accounting and Reporting Standard for examples, advantages and disadvantages.
- See SBTi website for additional examples of scope 3 targets.
- As with all SBTi scope 3 targets, targets for PG&S must not result in an absolute increase in emissions (even if they are intensity-based).

To realize absolute or intensity targets, companies have a number of reduction options / levers at their disposal:

- Material efficiency: Reduce the amount of material in a given product, e.g. fewer grams of cotton / t-shirt.
- Material substitution: Replacing a material with a lower GHG alternative (e.g. virgin poly with rPoly from bottles or textiles). A subset of this might be a target to collect X tons of pre- or post-consumer AP waste and convert this to new material. Example: H&M's commitment to use 100% recycled or sustainable materials by 2030.
- Sourcing changes: Shifting materials sourcing from higher carbon sources to lower ones (e.g. polyester made with renewable energy, leather 'produced' on lower impact ranches).
- Supply chain investments:: Discrete reduction opportunity, for example FW brands or leather suppliers might commit to reducing GHGs on a specific cattle ranch (guidance is being developed on accounting for this type of reduction).

11. Additional Guidance on Use of Sold Products (Category 11)

11.1 Overview and Context

Based on feedback from the Expert Advisory Group and other stakeholders, additional guidance was deemed necessary for the use of sold products (scope 3, category 11). Given that these emissions are indirect, it is recommended, but not required, that companies include them in their scope 3 targets.

For some apparel companies, use phase can be a significant portion of scope 3 and overall value chain emissions (use phase for footwear is typically not significant). In general, these emissions come from the energy required to wash and dry apparel. To illustrate:

- In a life cycle assessment of a pair of jeans, Levi's found that 37% of carbon emissions come in consumer care.

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- H&M reports that 18% of life cycle emissions across all of its products come in use phase.

The calculation of use phase emissions is driven by a number of factors, most of which are typically outside of a company's control. For example, how often a consumer launders a garment, the temperature on which he washes and dries it, the energy efficiency of the washing and drying machines, the source of electricity, and so on. Thus, any reduction in use phase emissions is highly dependent on shifting consumer behavior.

To date, no apparel company has set targets for use phase. Some companies have attempted to shift consumer behavior. For example, Levi's encourages consumers to wash jeans less, and its care tags recommend cold water wash and line drying. Patagonia offers similar guidance.

There are examples of companies in other sectors that have set targets or have tried to change behavior around use phase. For example, P&G has an approved science-based target to ensure that 70% of all washing machine loads are washed in cold water.

11.2 Options for Setting Targets for Use Phase

We recognize the difficulty of setting and targets and measuring progress for use phase. However, if a company wants to set such a target, we offer the following examples:

- Commit to communicate to customers about changing behavior (wash / dry less, cold water, line drying, etc.). This could take a number of forms - adding language on product tags, in-store or other advertising, etc. This might also be a commitment to educate retail employees about better care options (so they can engage customers).
- Commit to collaborate with other actors (e.g. detergent brands, washing machine manufacturers) to shift consumer care behavior.
- Shift to fabric types that require less or different laundering (however, there are tradeoffs to be considered, e.g. garments that are hand wash only may be less durable).

11.2.1 Considerations

Given how little influence apparel companies have on use phase behavior, some stakeholders have suggested that the guidance explicitly state that companies should not set targets, and rather focus their attention and resources in areas in which they have greater control. We understand this perspective, and reiterate that use phase targets are recommended where emissions are significant, but not required.

Also, there may be unintended consequences of aiming to reduce use phase emissions - for example, a company may make a product less durable so it wears out sooner (thus requiring less washing / drying overall).

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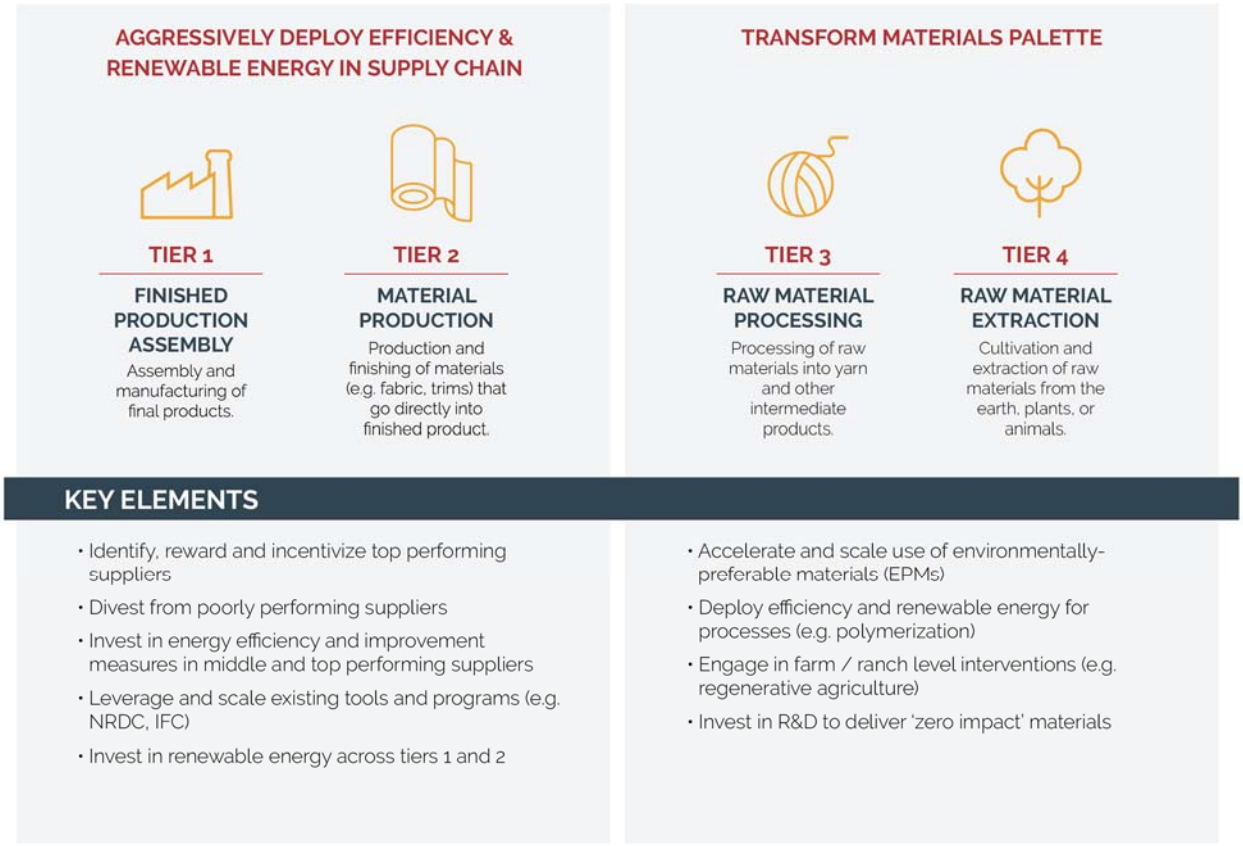
12. GHG Reduction Framework

In conversations with apparel and footwear companies considering SBTs, WRI heard a clear need for suggestions on how they might reduce emissions and achieve SBTs. While the purpose of this guidance is primarily to provide direction on the mechanics of setting SBTs, we include the below framework for emissions reductions and welcome stakeholder feedback on it. This is not meant to be a definitive or exhaustive list of reduction opportunities.

Figure 8: A Framework for Greenhouse Gas Reductions



Source: Authors

13. Appendix

13.1 Opportunities for Collaboration

Emissions reductions up and down stream will require collaboration across companies across the value chain and other stakeholders (e.g. policy makers). We have listed a number of ongoing collaborations (in no particular order), and we welcome stakeholder input on other programs to include.

- Sustainable Apparel Coalition: The apparel, footwear, and textile industry's leading alliance for sustainable production. The SAC developed the Higg Index, a suite of tools that enables brands, retailers, and facilities of all sizes to accurately measure and score a company or product's sustainability performance. The Higg Index delivers a holistic overview that empowers businesses to make meaningful improvements that protect the well-being of factory workers, local communities, and the environment.
- Clean by Design (NRDC): Collaboration with major apparel retailers and brands that leverages their buying power to clean up factories in their supply chains. Through the program, NRDC promotes a 10-step process designed to reduce the hottest spot of the industry's environmental impact: dyeing and finishing. As we encourage factories to adopt these best practices to save water, fuel, and electricity, we also push them to track water, steam, and electricity use. NRDC has introduced Clean by Design to nearly 200 textile mills and has tracked about 50 of them to quantify the results. Every mill using the program has seen benefits. Each mill in the 2014 program reduced water use by up to 36% and cut energy use by as much as 22% while also cutting 400 tons of chemicals from their processes.
- Race to the Top (IDH): A pre-competitive, locally owned multi-stakeholder initiative that aims to reshape Vietnam's apparel and footwear sector by promoting and enabling embedded sustainable (financial, social and environmental) manufacturing practices. RTTT aims to leverage existing programs from other organizations (e.g. Clean By Design for mill optimization). RTTT also aims to engage policy makers in Vietnam to address policy barriers to a more sustainable industry.
- IFC: In partnership with global brands, supplier factories, industry associations and governments, IFC works with factories seeking to adopt state-of- the-art practices and technologies to reduce water, energy and chemical use in the garment and textile industry. These practices help factories become more competitive by lowering operating costs, increasing their productivity, and reducing their impact on the environment. For example, Puma offers lower cost financing for suppliers that perform better on its supplier rating scheme (Levi's, Target, VF Corporation and Nike have rolled out similar programs). The IFC reports that its resource efficiency programs in Bangladesh, China, Pakistan and Vietnam have resulted in 685k tons of avoided GHG emissions per year.
- PaCT: Partnership for Cleaner Textile is a multi-stakeholder collaboration that aims to drive long-term competitiveness and environmental sustainability of the textile wet processing sector by addressing high water, energy, and chemical use through the adoption of best practices in the textile sector. Led by the IFC, partners include Solidaridad, the Embassy of the Kingdom of the Netherlands, 13 global apparel brands and 2 technology suppliers, textile factories, and the Bangladesh Garment Manufacturers and Exporters Association.
- We Mean Business: A global nonprofit coalition working with the world's most influential businesses to take action on climate change. WMB catalyzes business leadership to drive policy ambition and accelerate the transition to a low-carbon economy. As of February 2018, over 650 companies have made over 1100 commitments in 12 areas.
- BICEP (Ceres): The Business for Innovative Climate and Energy Policy (BICEP) network comprises influential companies advocating for stronger climate and clean energy policies at the state and

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federal level in the US. Apparel company members include Burton, Eileen Fisher, Gap Inc, L Brands, Levi Strauss & Co., NIKE, Inc, Patagonia, The North Face, Timberland, and VF Corporation.

- Circular Fibres Initiative: Launched in May 2017 at the Copenhagen Fashion Summit, the Circular Fibres Initiative brings together stakeholders from across the industry including brands, cities, philanthropists, NGOs, and innovators to collaborate and create a new textiles economy, aligned with the principles of the circular economy.
- Fashion Positive: A collaboration of leading brands that aims to accelerate the development of safer, circular materials for use in the apparel industry.
- Collaboration for Forests and Agriculture: Jointly launched in 2016 by the National Wildlife Federation, The Nature Conservancy, the World Wildlife Fund, the Gordon and Betty Moore Foundation, and others, the CFA aims to define standards and outline incentives to producing zero-deforestation beef and soy. The focus is to achieve solid commitments to zero conversion by the leading companies that buy, distribute and process soy and beef in the Amazon and Cerrado regions in Brazil, and in the Gran Chaco region spanning Argentina and Paraguay. We include this as leather used for footwear is a byproduct of the beef industry.

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