THE
FASHION
PACT

CLIMATE PILLAR

ACCELERATOR SUPPORTING PACKAGE

INTRODUCTION

Climate action is becoming increasingly strategic for corporates. Whether it is from external pressure by consumers or investors, (inter)national legislation, entrepreneurial spirit or risk management, more companies are taking steps to incorporating climate change. Meaningful climate action requires long-term strategies that account for all elements of a business from raw materials, to end of life treatment, to finding new ways of doing business. This Accelerator package aims to provide answers and references, to companies in the beginning stages of developing and integrating a holistic climate strategy.

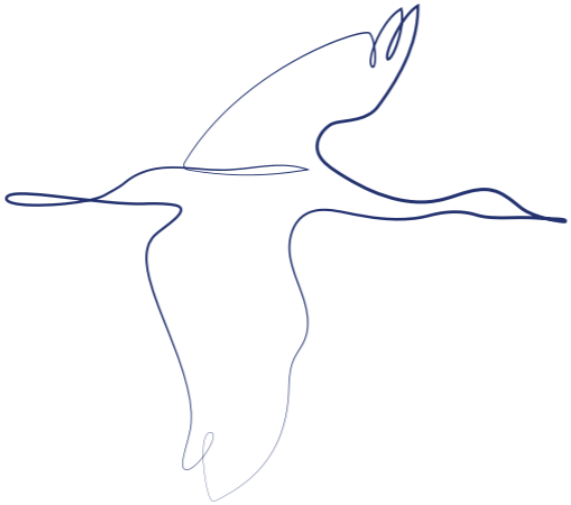
How to use this guidance

The aim of this guidance is to help signatories to the Fashion Pact get started and accelerate their progress on climate. Each section aims to help explain key terms and concepts, and then shares references to guidance, publications and organisations that can further support in your company's journey.

Specifically, this guidance sets out to:

- Provide clarity on the basic steps you should consider in developing a climate strategy.
- Provide a useful overview of related terminology and ideals.
- Connect you to the right external guidance documents and organisations - helping you find the right content without duplicating efforts.

IN THIS DOCUMENT



Who should use this guidance?

This guidance is one of three packages available for Pact signatories. The other two packages are the supplier package (which can be used either by producers or brands and retailers wanting to work with producers or to learn more about supply chain action) and the leader package (for those companies who are advanced in their climate journey).

To know if this guidance may be helpful for you, there are four key questions to answer for a brand or retailer:

1) Do you have a greenhouse gas inventory for scope 1, 2, and 3 emissions?
2) Do you have ambitious absolute (potentially science-based) targets for scope 1, 2 and 3?
3) Do you report externally on your GHG emissions, targets, and reduction progress?
4) Do you have a clear, proactive strategy for reducing your GHG emissions, including supply chain engagement and raw materials sourcing?

If any answers are no, you may benefit from the Accelerator package.

If you have all these elements in place, you are probably going to benefit most from the leaders package. There is no hard and fast rule - you can mix and match content if this is useful for your company.

CLIMATE CHANGE

Due to human activities over the last century such as burning fossil fuels, deforestation and industrial agriculture, the concentration of greenhouse gases (GHGs) in the atmosphere has increased to such an extent that it is changing the climate (see figure 1). Some of the effects of rising global average temperatures are: increased rainfall that could result in extreme events, acidification of oceans, and increasing sea levels due to an expanding ocean and melting of ice caps and glaciers. A changing climate affects livelihoods and biodiversity. Additionally, changing weather patterns affects agricultural production in various areas on which many millions of lives are dependent for income and is vital for food security. Heat waves, droughts, floods, extreme weather events, result in significant impacts on humans and natural systems, including your business.

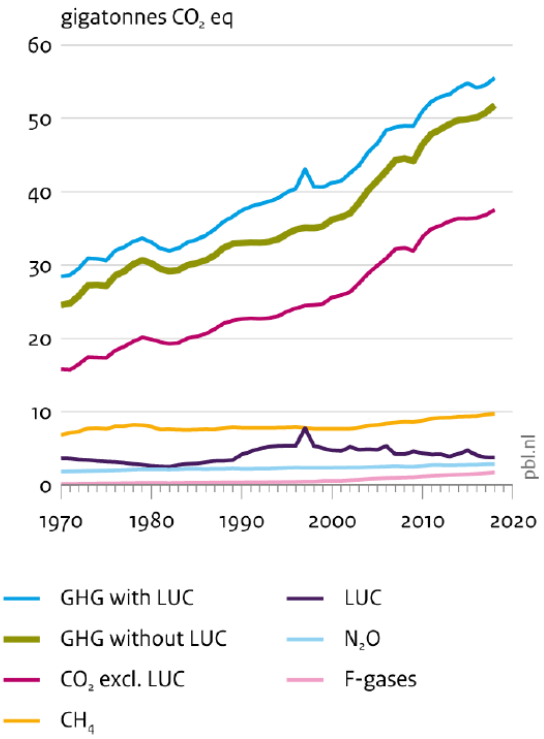
Due to natural feedback loops certain GHG emissions that are released in the atmosphere will be long lasting. This means that the effects of climate change will last well into the future. Even if we would stop emitting GHGs today the lasting effects such as increased temperatures will remain for centuries. The continued release of GHGs can furthermore lead to exceeding a tipping-point, meaning a point of no return that results in irreversible changes in major ecosystems or in the climate system.

Why acting immediately is the smart strategy

We are at a defining moment in time when it comes to addressing climate change. In Paris at the COP21 in 2015, more than 195 countries agreed to keep global emissions well below a 2°C temperature increase and if possible, aim to limit warming to 1.5°C. As this will require far reaching and unprecedented changes within society, the corporate sector has an important role to play in limiting warming to 1.5°C, creating an urgency for companies to act.

Global greenhouse gas emissions

Per type of gas



LUC = Land-use change, GHG = greenhouse gas

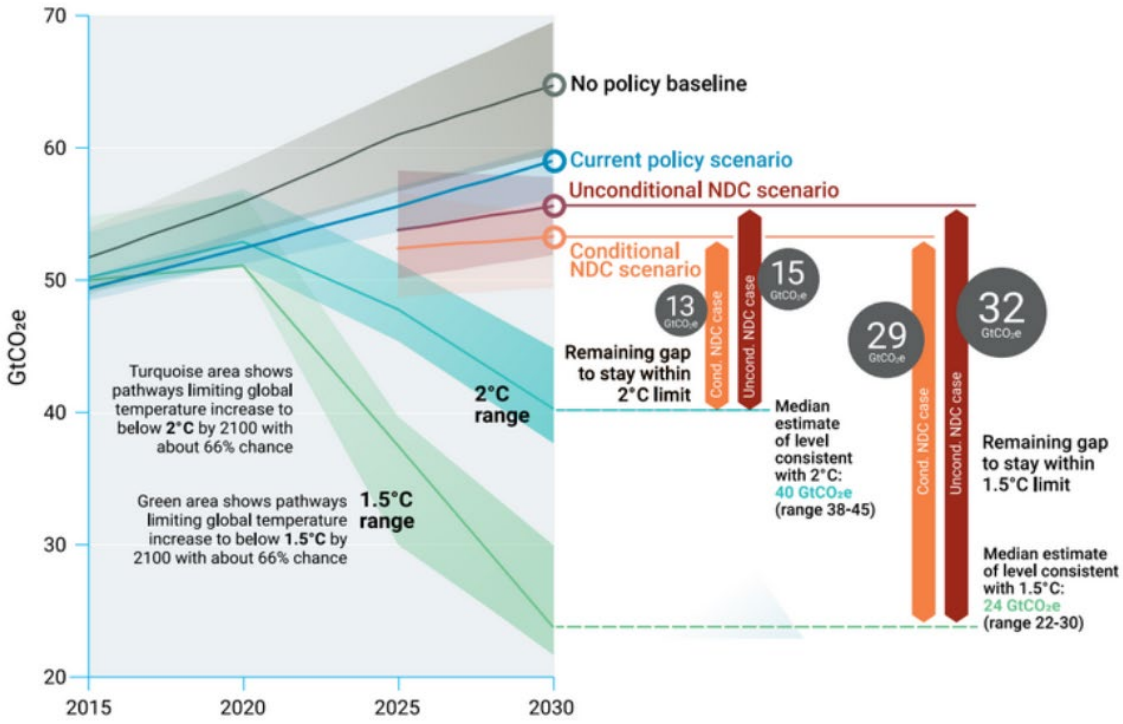
Source: GHG excl. LUC EDGAR v5.0 FT2018
LUC: Houghton and Nassikas 2017

Companies are facing increased stakeholder pressure from shareholders, customers, investors, policies, and civil society organisations, to act on sustainability. Due to the increasing impacts of climate change, these pressures will only continue and will require companies to act. Many solutions already exist to address GHGs within a company's value chain, many of which make good business sense and can create opportunities for corporates to reduce costs and increase reputation.

Acting on climate change mitigation and adaptation will result in considerable side-benefits to society, ranging from reduced air pollution, improving human health, fully decarbonized energy systems and production processes, sustainable and fulfilling consumption patterns, sustainable agricultural practices, addressing biodiversity loss, and creating sustainable cities.

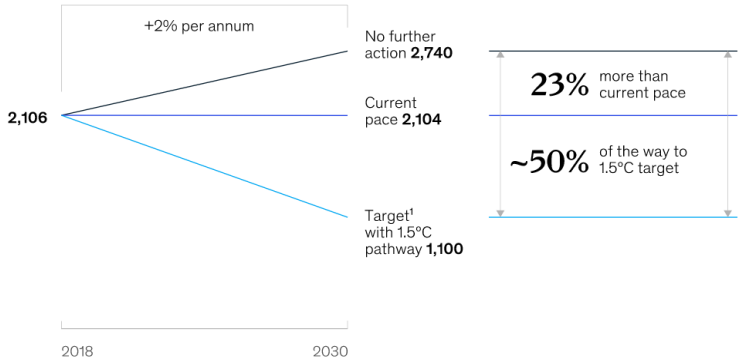
There is a need to act now. The longer we wait with steering towards a 1.5°C, the more reduction and adaptation measures need to happen. The challenge is immense as companies in various sectors, including the fashion industry, must rethink the way they do business and decouple value creation from value growth. Beyond defining strategies, actions need to happen simultaneously.

An assessment of current policies and pledges by countries in their contributions to aim for limiting warming to 1.5°C is falling well short of what is necessary (see figure 2). The emissions and ambition gaps that still need to be overcome are huge as with current pledges we will likely surpass 3°C, not considering any tipping-points that will likely be crossed. Simply put, to have a change of limiting warming to 1.5°C, we need annual global reductions of 7.6% until 2050. This is not yet considering the actions necessary to address the impacts on human society, and biodiversity that are the result of a warming world.



Under the current trajectory, the fashion industry misses the 1.5°C pathway by 50 percent and abates only emissions from incremental growth.

Emissions abatement assuming the industry decarbonization continues at current pace, million tons of CO_2 equivalent



[1]Calculation: half of available 1.5°C pathways indicate 25 billion to 30 billion tons of CO_2 equivalent a year by 2030 (IPCC), 4% of 27.5 billion tons of CO_2 equivalent equals 1.1 billion tons of CO_2 equivalent.
Source: Consolidated model as of June 19, 2020

McKinsey & Company

McKinsey and GFA's Fashion on Climate report also highlights that if the fashion industry continues with current efforts on climate, it will miss its required 1.5 degree GHG reduction by 50%. This clearly highlights the need for further and more ambitious action from the industry.

Benefits for business to act

There are significant benefits to acting on climate change. One of the most obvious is cost reductions. By making your own operations and supply chain more efficient, costs can be reduced. Increasing transparency can support in reducing negative environmental impacts and assessing where operations can be streamlined. Phasing out fossil fuels by shifting to renewable energy can reduce price volatility and reduce regulatory risks. Measuring and addressing risks can support in future proofing your business which can go hand-in-hand with sustainability improvements.

Climate change action can spur innovation, for example leading to new, more sustainable, product development that attracts new customers, and new production methods that decrease negative impacts. The reputation of a company can be increased by showcasing sustainability measures that make customers want to return to your store. Finally, with increasing internal and external pressure it is quite likely that companies not taking timely action will be left behind by both customers, stakeholders, and investors, and lose their so-called licence to operate. All these actions can increase the competitiveness of your company and create new market opportunities.

Collaboration is key in achieving the tasks that lie ahead, as the power of the collective can achieve more than a single company. Pact signatories need to develop holistic strategies, engage with the sector and policy makers, drastically scale up energy efficiency and renewable energy measures, increase end-of-life treatment of garments, and consider new ways of doing business. Every day in which action is delayed will require further and deeper costs in the years to come with an increasing price tag.

KEY TERMS AND CONCEPTS

- **Adaptation**: Refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts.
- **Absolute emission reduction target**: A target defined by reduction in absolute emissions over time e.g., reduces CO2 emissions by X% below 2018 levels by 2030.
- **Avoided emissions**: Emission reductions that occur outside of a product's life cycle or value chain, but as a result of the use of that product often in comparison to another product.
- **Base year**: A historic datum (a specific year or an average over multiple years) against which a company's emissions are tracked over time.
- **Bioenergy**: Energy derived from any form of biomass such as recently living organisms or their metabolic by-products
- **Boundaries**: GHG accounting and reporting boundaries can have several dimensions, i.e. organizational, operational, geographic, business unit, and target boundaries. The inventory boundary determines which emissions are accounted for and reported by the company.
- **Carbon budget**: For a given temperature rise limit, for example a 1.5°C or 2°C long-term limit, the corresponding carbon budget reflects the total amount of carbon emissions that can be emitted for temperatures to stay below that limit. Stated differently, a carbon budget is the area under a carbon dioxide (CO2) emission trajectory that satisfies assumptions about limits on cumulative emissions estimated to avoid a certain level of global mean surface temperature rise.
- **Carbon intensity**: The amount of emissions of CO2 released per unit of another variable such as gross domestic product, output energy use, transport, or agricultural/forestry products.
- **Carbon pricing**: The price for avoided or released CO2 or CO2e emissions. This may refer to the rate of a carbon tax or the price of emission permits. In many models used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.
- **Carbon tax**: A levy on the carbon content of fossil fuels. Because virtually all of the carbon in fossil fuels is ultimately emitted as CO2, a carbon tax is equivalent to an emission tax on CO2 emissions.
- **Circular economy**: A circular economy aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital.
- **Climate finance**: Refers to local, national or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change.
- **Climate resilience**: Climate resilience is the ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate. Improving climate resilience involves assessing how climate change will create new, or alter current, climate-related risks, and taking steps to better cope with these risks.
- **CO2 equivalent (CO2e)**: The universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing (or avoiding releasing) different greenhouse gases against a common basis.

- **Deforestation**: Conversion of forest to non-forest.
- **Emission factor**: A factor allowing GHG emissions to be estimated from a unit of available activity data (e.g. tonnes of fuel consumed, tonnes of product produced) and absolute GHG emissions.
- **Emission hotspots**: Areas along the value chain where emissions are particularly high or important.
- **Emission pathway**: The trajectory of annual greenhouse gas emissions over time.
- **Energy efficiency**: Using less energy to perform the same tasks.
- **Global warming potential (GWP)**: An index representing the combined effect of the differing times greenhouse gases remain in the atmosphere and their relative effectiveness in absorbing outgoing infrared radiation.
- **Greenhouse gas**: The atmospheric gases responsible for causing global warming and climatic change. The major greenhouse gases are carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O). Less prevalent, but very powerful, GHGs are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6).
- **Greenhouse gas inventory**: A quantified list of an organization's GHG emissions and sources.
- **Land use, land-use Change and forestry (LULUCF)**: A greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human induced land use, land use change and forestry activities.
- **Mitigation**: In the context of climate change, a human intervention to reduce the sources, or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings and expanding forests and other 'sinks' to remove greater amounts of CO2 from the atmosphere.
- **Monitoring, reporting and verification**: A process/concept that potentially supports greater transparency in the climate change regime.
- **Nationally Determined Contribution (NDC)**: Submissions by countries that have ratified the Paris Agreement which presents their national efforts to reach the Paris Agreement's long-term temperature goal of limiting warming to well below 2°C. New or updated NDCs are to be submitted in 2020 and every five years thereafter. NDCs thus represent a country's current ambition/target for reducing emissions nationally.
- **Nature based solutions**: Actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.
- **Offsetting**: the action or process of compensating for carbon dioxide emissions arising from industrial or other human activity, by participating in schemes designed to make equivalent reductions of carbon dioxide in the atmosphere.
- **Renewable energy**: Energy taken from sources that are inexhaustible, e.g. wind, water, solar, geothermal energy, and biofuels.
- **Science-based target**: GHG emissions reduction targets are considered "science-based" if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement—to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.
- **Supply chain**: The sequence of processes involved in the production and distribution of a commodity.

- **Tipping-point**: Tipping points are thresholds where a tiny change could push a system into a completely new state and are based on positive feedback loops, whereby an effect of something reinforces the cause.
- **Value chain emissions**: Emissions from the upstream and downstream activities associated with the operations of the reporting company.

(Sources: GHG Protocol Corporate Standard, IPCC AR5 Report, SBTi Manual, 2050 own definitions)

General Resources To Get Started

These guidelines give a good overview of a company strategy on climate for the Fashion industry, and what kinds of activities will be useful in delivering your climate strategy. Key resources to use as a jumping off point for working on climate in fashion include:

Getting started on climate:

- The Fashion Industry Charter for Climate Action Playbook
- The SBTI Apparel and Footwear guidelines

What is the pathway for the industry:

- Pulse of the Fashion Industry 2019, BCG on behalf of Global Fashion Agenda (2019)
- Environmental Improvement Potential of Textiles (IMPRO Textiles), European Commission (2014)
- State of Fashion 2020, McKinsey on behalf of Business of Fashion (2019)
- Fashion on climate, McKinsey and GFA
- Roadmap to Net Zero Delivering Science-Based Targets in the Apparel Sector, WRI, SAC, Aii (draft)

Best practice case studies:

- Sustainable Action and Vision for a Better Environment, Project Final Report, Puma (2016)

SECTION 1: MEASURING IMPACT

The fashion industry is a major contributor to global greenhouse gas (GHG) emissions. It is estimated that the industry contributes somewhere between 2% and 8% of global GHG emissions. Once a decision is taken for a company to address its climate change impacts, measuring the GHG emissions is the first step in the process. Measuring your company's energy use and GHG emissions will lead to the following benefits:

- By measuring and understanding the energy use in your own operations, energy saving, and renewable energy technologies can be implemented to reduce energy use, costs, and GHG emissions.
- Measuring and understanding your energy use and associated GHG emissions from different energy use types can inform emission 'hotspots' in your company that will deliver the largest reduction opportunities in both emissions and costs.
- Mapping the GHG emissions in your value chain (e.g. of your suppliers, outsourced transport, customers, etc.) can support your company in making targeted and efficient decisions on addressing key climate impacts, potentially also helping your suppliers or customers reduce emissions and costs.
- Mapping and measuring GHG emissions within your value chain can enable alignment within the organisation on project priorities and can drive production and product innovation.
- Measuring GHG emissions helps address regulatory uncertainty and risks from increasing national and international regulations around environmental impacts.
- Measuring and transparently reporting GHG emissions sends a strong signal that a company takes their climate impacts seriously, and can help build confidence among investors, customers, and NGOs; particularly in combination with credible, ambitious GHG targets for all your GHG emissions.
- Measuring and addressing GHG emissions can help de-risk your own operations and those of your suppliers.

Types of GHG

Greenhouse gases is a collection term of different gases that contribute to the greenhouse effect on Earth. The greenhouse gases that are included as important in the GHG protocol are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). CO_2 is the largest contributor to man-made climate change, mainly due to the burning of fossil fuels. Methane, nitrous oxide and sulfur hexafluoride are emitted in less quantities but are more potent as a greenhouse gas than CO_2.

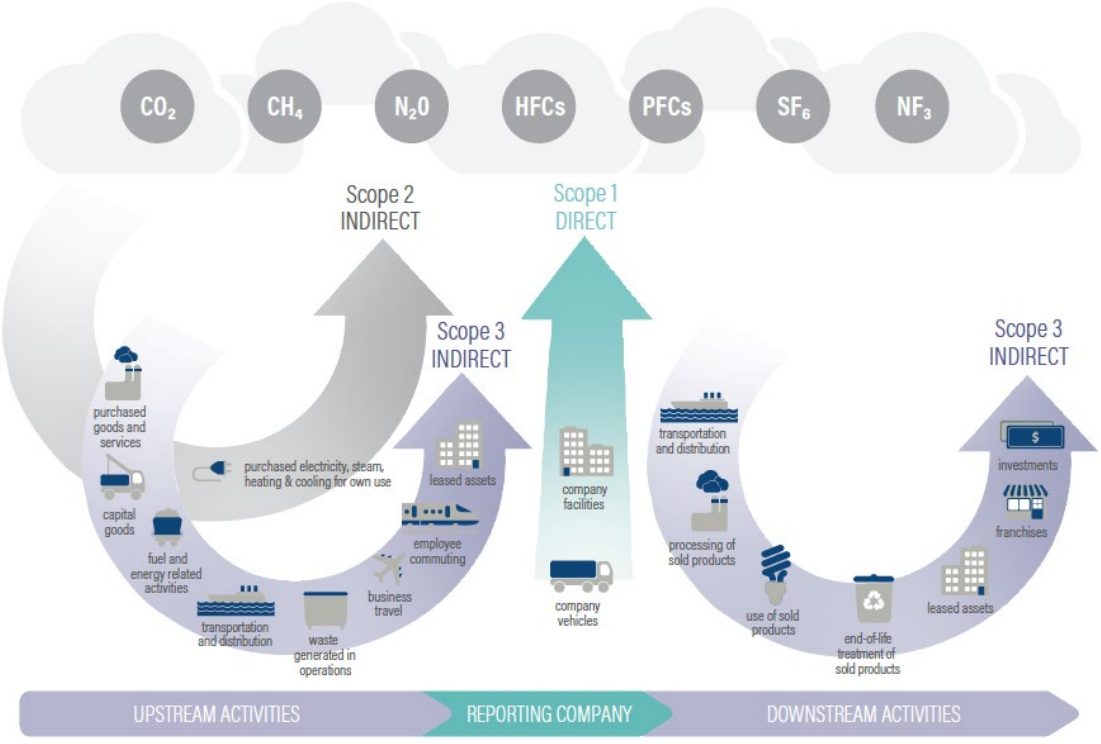
Because all GHGs have a different warming potential - the potency of a gas to contribute to global warming - the different GHGs are usually converted to carbon dioxide equivalents (CO_2e). The increases the ease of comparing and reporting different greenhouse gases. The recommendation is for a company to also report each gas individually with an explanation on why certain gases are excluded, e.g. because certain gases might not be emitted in a company's value chain. For more information on the conversions, see this guideline on converting non carbon GHG into carbon equivalents.

GHG inventory boundary and emission scopes

When a company starts the process to measure its greenhouse gas emissions it first needs to decide on the boundaries of how the emissions will be measured and reported. For the fashion industry, there are two approaches that a company can consider, the 'equity share approach' and the 'control approach'. Under the equity share approach a company accounts for the emissions according to its equity share in a certain space or operation. Under the control approach a company accounts for 100% of the emissions over which it has control. Control can be defined in financial or operational terms. Operational control is used most often to set the GHG inventory boundary.

Once the emission boundary is set according to one of the approaches above, GHG emissions are grouped in three emission categories - Scope 1, Scope 2, and Scope 3. These three categories together make up a company's total value chain emissions, or GHG footprint, as it includes the "own operations" – scope 1 and 2 – and the upstream and downstream activities – scope 3. See figure 3 for an overview of scope and categories of emissions.

- Scope 1 are emissions for direct energy use by a company or organisation (e.g. direct onsite fuel consumption).
- Scope 2 are emissions from indirect energy use by that organisation (e.g. emissions for grid electricity).
- Scope 3 covers 'indirect' emissions (for fashion companies this is normally where the vast majority of the emissions occur as it encompasses emissions from, amongst others, raw materials, suppliers, customers, and the end of life treatment of products). Scope 3 emissions are further classified into 15 different categories – further explained below.



Source: Greenhouse Gas Protocol

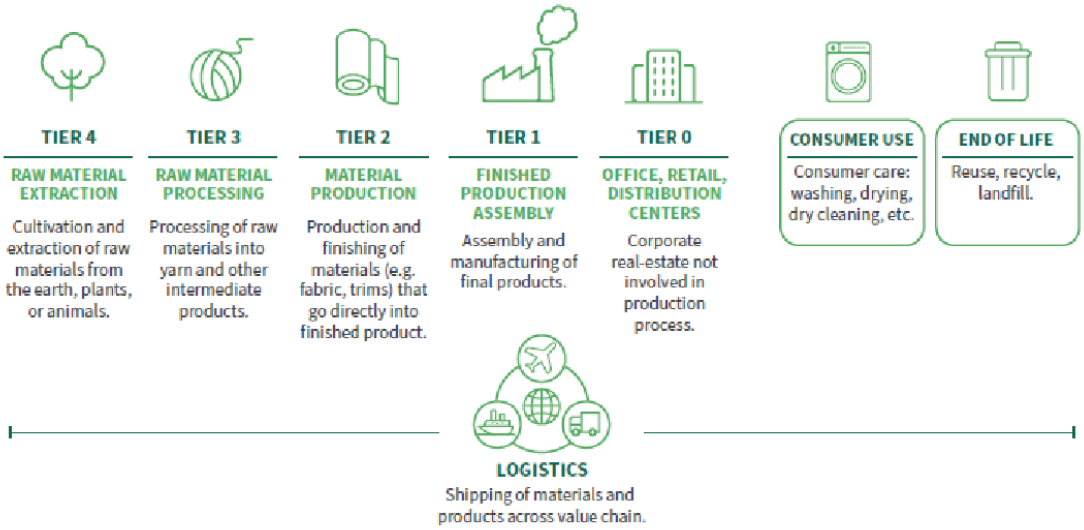
Main impacts in the fashion value chain

The bulk of a fashion company's GHG emissions is found in the scope 3 categories – tier 1 to 4 activities, consumer use, end-of-life, and transport (see figure 4). This is because the most impactful parts of production sit outside the company's direct operations. The selling of the clothes in stores generally only accounts for a fraction of the total emissions. For the companies that produce and / or process the clothes, the bulk of emissions is likely found in their scope 1 and 2 emissions. There will be a separate guide for 'producer' companies within the fashion value chain.

To provide additional examples, the most GHG-intensive parts of the fashion value chain tend to be found in the following places:

- The cultivation, extraction, and processing of raw materials (cotton, wool, viscose, etc.)
- Emissions from tier-1 and tier-2 suppliers such as high-heat energy intensive activities such as dyeing fabric in factories.
- The customer use phase of the product, where activities like washing, drying, and ironing clothes use significant amounts of energy.

FIGURE 1 | Apparel and Footwear Value Chain



Source: Sadowski, M., C. Yan, and N. Aden. 2019. Apparel and Footwear Sector Science-Based Targets Guidance. Washington, DC: World Resources Institute.

How to start

There are a variety of approaches used by companies to measure (or model) their GHG emissions across all 3 scopes. The most widely-recognised and credible standard for GHG accounting is the Greenhouse Gas Protocol (GHG Protocol), and will therefore be the standard that is referenced in this guide and recommended to all companies to use as the backbone to their measurement approach.

The GHG Protocol has a number of guidelines and standards for companies to use for measuring and reporting GHG emissions. The basic guide on GHG is accounting is the Guide to Corporate GHG Accounting, which provides guidance to companies on how to gather data and measure GHG emissions. There are also additional guidelines specifically on scope 2 and scope 3 emissions, which we will explore further in the relevant sections below. Even if companies use different standards or guidelines, the recommendation would still be to also align with the GHG protocol guidance.

Measuring scope 1 and 2 emissions

Scope 1 and 2 emissions are relatively straightforward to measure, in that they refer to the direct and indirect energy use of a company's own operations. It is relatively easier to measure these emissions as a company has direct access to the energy data that should be converted into GHG emissions. The measurements can, to some extent, be done directly by the company itself with some technological aids.

Companies should include all relevant emissions from direct or purchased energy within their own operations. It is generally accepted by the Greenhouse Gas Protocol and for example the Science Based Targets initiative that companies may exclude up to 5% of their total Scope 1 and 2 emissions if they are not deemed 'significant'. All relevant greenhouse gases in the company's operations should be considered and included. If a greenhouse gas is excluded in disclosures, a rationale for exclusion may be provided in the company's reporting.

Ideally, the parent company of an organisation should calculate the GHG emissions for the whole company, including all relevant subsidiaries. Specifically, for measuring scope 2 emissions, two different approaches exist to calculating emissions, the 'location' and the 'market-based' approach. This is described in the detail in the GHG Protocol Scope 2 Guidance. The recommendation is, also in most reporting standards, to report scope 2 emissions via both methods for transparency purposes. Below the summary description of both approaches can be found.

Location-based: Cumulative effect of consumer or supplier choices over time that change the grid average emissions factor. (Other factors such as economics and environmental regulation can also impact this.) But individual corporate choices regarding electricity contracts, supplier choices, or certificate purchases are not directly reflected in an individual's scope 2 inventories using the location based method.

Market-based: Individual corporate choices of electricity product or supplier, or the lack of a differentiated choice, which requires the use of a residual mix. Many market-based tracking systems currently only reflect renewable generation contractual instruments, but the method should reflect any type of contract or supplier-specific emission factor that meets the Scope 2 Quality Criteria.

Converting energy use data into GHG emissions

To convert energy data into GHG emissions, a conversion analysis needs to be carried out based on a number of different factors. In particular, the types and sources of energy used, and the energy mix of the relevant electricity grids will be important to help you convert energy use data (e.g. activity data) into GHG emissions.

Conversion factors recommended by the UNFCCC and created by IPCC can be found here, and there are several tools available to help companies carry out this conversion process including this one from Quantis and the GHG protocol which – although focused on Scope 3 emissions – can also help estimate Scope 1 and 2 emissions. Some industry tools like the SAC MSI and the SAC FEM also embed these emission factors.

Ideally, companies should use actual energy use data wherever possible to calculate scope 1 and 2 emissions. While estimating energy use can help to provide a high-level understanding of emissions and impact, it can become difficult to demonstrate and substantiate impact reductions if estimates are not backed with actual improvements. Tools like the one above should only be used as a first estimate, and not as a final solution.

Data sources

Data sources for Scope 1 data may include:

- Info on the size of office/store/warehouse space (in square meters or square feet).
- Actual fuel use data or purchase records (invoices)/use estimates for stores, offices, warehouses, or factories.
- Actual fuel use data or purchase records from vehicle fleet managers or users.
- Actual refrigerant losses data or modelled estimates.
- Emissions factors.

Data sources for Scope 2 data may include:

- Actual or estimated meter readings or costs from electricity providers.
- Actual or estimated usage or costs from steam providers.
- Renewable energy contractual agreements, energy attribute certificates, etc.
- Emissions factors.

Measuring scope 3 emissions

Measuring scope 3 emissions is generally more complex as you have less direct access to data on energy used and associated emissions, as you do not own these parts of the business. The larger the value chain and the more players active in it, generally increases the complexity, especially to obtain primary data (i.e. actual energy data from a factory). The GHG protocol divides scope 3 emissions into 15 different categories that deal with all aspects of your business, excluding your 'own operations' as these are covered by your scope 1 and 2 emissions. The 15 categories are illustrated below.

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

The Science Based Target Initiative guidelines for textiles companies suggest the following 4 options can be applied to the textiles value chain Scope 3 assessments:

- 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 the Higg Materials Sustainability Index).
- Spend-based: Estimates emissions by collecting data on the economic value of goods and services purchased and multiplying it by relevant secondary emission factors.

Although technically, all downstream impacts for a brand or producer are in scope for their measurement and reporting of Scope 3 emissions, in reality there are some considerations to bear in mind when drawing the boundaries of what is in scope for an individual company. These considerations include:

- Whether suitable data or calculation methods are available to the company to actually capture those impacts.
- How much reasonable responsibility a company can have over certain kinds of downstream impact, in particular in the case where the relative size, resources or positioning of the company makes it inappropriate to consider them responsible for the impacts of another organisation.

For example, large fashion brands are potentially responsible for the use phase emissions of its customers, but both the scarcity of relevant data and challenges around how to influence consumer

care behaviour means that no fashion company has yet set validated Science Based Targets for the use phase. This is something that the industry will need to address.

Converting energy use data into GHG emissions

Similar to calculating your scope 1 and 2 emissions, the energy use in the broader value chain needs to be converted into GHG emissions. To do this a company will need to carry out a conversion analysis based on a number of different factors. In particular, the type and source of energy used, and the energy mix of the relevant national/sub-national grid will be important to help you convert energy use data into GHG emissions. Conversion factors recommended by the UNFCCC and IPCC can be found here, and more are listed in the resources section below.

Relevant Scope 3 emissions

For Scope 3 emissions, another challenge is knowing how much of the relevant GHG impact should be attributed to your company. If your suppliers are producing a specific tonnage or value of material for your company, at a minimum you will need to know how much of their total value or volume that represents. The most accurate option would be to distinguish between energy use for your products versus the products of another customer – e.g. you may have a much more impactful process than another customer. But at this stage, the reality is that sites are not equipped to make the distinction in such a granular way.

Impacts in 'Tier 3' -usually understood as companies between fabric mills and raw materials producers- will most likely need to have their impacts measured or modelled. In the SAC MSI modelling tool this is to some extent possible as it covers the various treatments and processes going into a product to give an estimated impact. Further investigation is needed into the best available methods for modelling Tier 3 impacts – at least until a critical mass of relevant companies are able to provide data through industry platforms or directly to their brand/upstream producers. It is worth noting that to combine the data from SAC's Materials Sustainability Index (MSI) and Facilities Environmental Module (FEM) tools to get an emissions number for purchased goods and Services is quite challenging since the two tools have completely different methodologies of calculation.

Resources to use:

Some fashion companies have detailed in-house reporting systems that can pull together different types of data to create a GHG inventory. Other companies work with third party systems and tools to calculate their emissions. Many companies work with consultants or technical organisations to gather the appropriate activity data and to understand how to address data gaps or methodological issues.

- Fashion Industry Charter assessment of 3rd party assessment tools (signatories only)
- Fashion Industry Charter assessment of service providers (signatories only)

Scope 3 tools and data sources

With Scope 3 emissions, ideally direct energy usage data will be used at least with immediate sub-suppliers. However, in many cases emissions are challenging or impossible to directly measure and will need to be estimated or modelled using best available tools – covering the supply chain actors beyond Tier 1 and 2 as well as raw materials impacts. Hopefully as these tools become more sophisticated, modelled impact will become more accurate and provide a better basis for demonstrating progress against GHG targets.

Some general resources that are important to mention are the guidelines on:

- Scope 3 emissions from the GHG protocol and the supporting technical guidance,
- Online course from the GHG Protocol about measuring Scope 3 emissions
- GHG Protocol scope 3 evaluator, which provides a simple interface to make a first, rough approximation of a full scope 3 footprint.
- For impacts from suppliers and producers, one source of data could be the SAC Higg Index Facilities Environment Module.
- The Amfori , which has incorporated a Carbon Calculator created by amfori's partner myclimate.

Emission factor sources

- Raw materials: Higg Materials Sustainability Index (MSI)
- Fuels, vehicles: US EPA Emission Factors
- Electricity: eGRID location-based emission factors for North America
- Electricity: Green-e residual mix emission factors for North America
- Electricity: AIB residual mix emission factors for Europe
- Electricity: IPCC emission factor database
- Wide variety of emission sources: DEFRA

General measurement sources

- SCAP Footprint Calculator 2.1o Technical Report, WRAP (2019)
- WRAP SCAP Knowledge Hub
- Measuring Fashion: Environmental Impacts of the Global Apparel and Footwear Industries Study, Quantis (2018)
- Environmental Assessment of Swedish Clothing Consumption, Mistra Future Fashion (2019)

SECTION 2: TARGET SETTING

This chapter will describe the basics towards developing GHG emission reduction targets. For the members of the Fashion Pact, the recommendation is to develop a target in line with science, as this is an important step for a company to take to transform the industry. A science-based target looks at the Paris Agreement globally agreed climate goals, in particular referencing a well-below 2- or 1.5-degree warming scenario and works backwards through a methodology to ensure that company targets are in line with meeting those global goals.

Since 2015, a coalition between, CDP, United Nations Global Compact, World Resources Institute, and the World Wild Fund for Nature developed the Science Based Targets initiative (SBTi). The SBTi is the leading body in supporting companies with developing science-based targets. Various resources are available on their website for basic target development.

For a fashion brand, most GHG emissions likely occur in the downstream supply chain, for example through material production and extraction, and the processing of semi-finished products. Due to this, to be eligible for setting targets according to the criteria of the SBTi, GHG reduction targets need to be developed for scope 1, 2 and 3. Different criteria exist for targets covering different scope. See the SBTi website for the latest version of the criteria for the requirements per scope of emissions.

Base year and target year

A base year is the year that a company chooses to measure their target progress against. To set a base year a GHG inventory covering scope 1, 2 and 3 emission data must be available. Also, a representative base year should be chosen in which only minor fluctuations took place. As an example, 2020 will likely not be a good year to choose as base year due to the disruptions many companies faced. The general recommendation is to set your base year as recent as possible given the considerations above. If you are developing a GHG inventory for example for the past year, it would be recommended to use that year as your base year for setting your targets. The GHG inventory used for the base year will need to be recalculated under certain circumstances.

A target year is the year by which a company aims to have achieved its target. Various targets can have different target years. It is also recommended that a company has a combination of short-, mid- and long-term targets as part of a holistic and ambitious climate strategy. Where possible it is recommended that companies use the same base year for all these targets to increase transparency, but also to aid internal and external communications by the company.

Target boundary

In chapter 1 on measuring emissions, the importance and ways of determining the company's GHG emission boundary is explained. When developing your (science-based) targets, the same approach to calculating the company's GHG inventory boundary should be applied. The GHG Protocol Corporate Standard provides more information on the development of your GHG inventory. Finally, all relevant greenhouse gases should be covered by the GHG inventory and target when relevant. More guidance on exclusions can be found in the SBTi Manual. The greenhouse gases that should be considered are: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF6), and nitrogen trifluoride (NF3).

Absolute vs intensity targets

Beyond the base year and target year an important consideration is whether to set absolute or relative reduction targets. Absolute targets look at the total amount of emissions attributed to a company and make reductions based on that amount. Relative targets look at how high emissions are relative to a particular unit, such as revenue or production volumes.

Relative GHG reductions can look strong, but if the company or its production expand, absolute emissions may still be going up – meaning that a company is not actually addressing its overall GHG emissions. Even if market share for a specific company is growing, the whole textiles industry will likely also continue to expand. This means that increased market share (and emissions) for one company is not always counteracted by a decreased market share (and emissions) for others – and the total impact from the industry could continue to rise.

Scope 1 & 2 target setting

The Fashion Pact signatories are committed to two goals that are relevant to scope 1 & 2:

1) The first relevant goal is the overarching climate goal: *implementation of Science Based Targets for Climate to achieve net-zero by 2050*

2) The second is the goal to have *100% renewable energy across own operations by 2030, with 50% by 2025*.

Both setting Science Based Targets and sourcing of renewable energy are covered in the sections below

The Pact target for *ongoing implementation of principles of UN Charter for Climate Action* is also relevant, as the Charter sets a target for its signatories to reduce their GHG emissions by 30% on scope 1, 2 and 3 by 2030, against a 2015+ baseline. This target is currently being reviewed, and is likely to be updated to a 45%+ target for 2030. Pact signatories will be reporting against whether they have joined the Fashion Charter as part of their overall Pact reporting cycles.

On the SBTi website, the latest guidance and criteria can be found to develop scope 1 & 2 reduction targets in line with science. For this guidance document, only the criteria of the SBTi are considered as they represent the best available target setting guidance and are included in the shared goals of the Fashion Pact.

The most important considerations to setting targets in line with the criteria of the SBTi are:

1) The target should cover all scope 1 and 2 emissions of the company, with a maximum exclusion of 5 percent of the total emissions.
2) Any biomass-related emissions should be included within the target boundary.
3) Base year emissions for scope 2 targets should be calculated according to either the location-based or market-based approach. See chapter 1.
4) Targets related to procuring renewable energy are also acceptable as an alternative to scope 2 emissions reduction targets under certain conditions.
5) At the minimum the ambition level of the target should be in line with the well-below 2°C scenarios, but 1.5°C is encouraged.
6) When a company chooses to set intensity targets these should lead to absolute emission reductions in line with the well-below 2°C scenarios to be accepted.
7) Targets should cover a minimum of 5 years and a maximum of 15 years from the date the target is submitted.

If companies wish to set longer term targets, the SBTI are now laying out the approach under their work on Net Zero targets. *For further discussion of this work, please see the Climate Leaders package.*

According to the SBTi, apparel and footwear companies have three methods for setting scope 1 and 2 targets in line with a Science-based approach (for details of these methods, see section 3.2 of their guidelines, "Methods for Setting SBTs for Scopes 1 and 2 for Apparel and Footwear Companies"):

- **Absolute contraction:** The absolute contraction approach is a method for companies to set emissions reduction targets that are aligned with the global, annual emissions reduction rate that is required to meet 1.5°C or well-below 2°C. The respective annual reduction rates for both scenarios are at least 2.5 percent annual linear reduction for well-below 2°C and at least 4.2 percent annual linear reduction.
- **Physical intensity:** Reduce emissions intensity per physical production output with a unit that is representative of a company's portfolio (e.g. per tonne of product) which, when translated to absolute emissions reduction terms, is in line with the absolute contraction approach.
- **Economic intensity:** Reduce emissions intensity per economic value with a unit that is representative of a company's portfolio (e.g., revenue or value added), which, when translated to absolute emissions reduction terms, is in line with the absolute contraction approach.

When setting a target, for example as part of the Science Based Targets initiative, one or the other method should be used to set the target and to report progress against the target. This is necessary to ensure consistency between the ambition and progress of the target. Several reporting initiatives

would still also require companies to report overall scope 2 emissions via both the location-based and market-based approach. In order to credibly claim that a target is 'science based', it must be verified by the Science Based Targets initiative. SBTi's requirements for approving science based targets can be found on the website.

Scope 3 target setting

The Fashion Pact signatories are committed to three goals that are relevant to scope 3:

1) The first relevant goal is the overarching climate goal: *implementation of Science Based Targets for Climate to achieve net-zero by 2050*

2) The second is the goal to that *25% of key raw materials are lower climate impact by 2025*

3) The third is to encourage *implementation of renewables in all high impact manufacturing processes along the entire supply chain*

All of these targets are covered in the sections below.

For a fashion brand or retailer, it is highly likely that the majority of their emissions are found in scope 3. Therefore, it is important to develop scope 3 emission reduction targets alongside scope 1 & 2 reduction targets. Also, to be eligible for target approval by the SBTi, scope 3 targets need to be in place, as they account for the majority of the emissions of a fashion company. On the SBTi website, the latest guidance and criteria can be found to develop scope 3 reduction targets. The most important considerations to setting targets in line with the criteria of the SBTi are:

1) Scope 3 targets should cover at least two-thirds of the total scope 3 emissions footprint. For a fashion company "purchased goods and services" is generally the largest category and will therefore need to be included.
2) A company can set a combined scope 3 reduction target, or multiple scope 3 targets covering different categories.
3) A company can set absolute, intensity or supplier engagement targets. Absolute emission reduction targets, at the minimum, need to be aligned with the 2°C scenarios. Intensity targets need to lead to absolute emission reductions in line with 2°C scenarios. Supplier engagement targets drive the adoption of SBTs amongst suppliers and are subject to specific criteria - for example they are only permissible temporarily as part of a wider strategy to addressing scope 3
4) Targets should cover a minimum of 5 years and a maximum of 15 years from the date the target is submitted.

If companies wish to set longer term targets, the SBTI are now laying out the approach under their work on Net Zero targets. *For further discussion of this work, please see the Climate Leaders package.*

For setting scope 3 targets, the Science Based Targets initiative recommends four different ways to setting a target. There are certain differences compared to setting scope 1 and 2 targets that are explained below.

Absolute contraction: Reduce absolute emissions by the same percentage to keep global temperature increase within 2°C (minimum 1.23 percent annual linear reduction). While 2°C is the minimum level of ambition for scope 3 targets, companies are encouraged to pursue greater efforts toward a well below 2°C (minimum 2.5 percent annual linear reduction) or a 1.5°C trajectory (minimum 4.2 percent annual linear reduction).

Physical intensity: Reduce emissions intensity per physical production output with a unit that is representative of a company's portfolio, which, when translated to absolute emissions reduction terms, is in line with the absolute contraction approach. Alternatively, companies can drive physical intensity reduction to cap absolute emissions at a base year level and achieve a physical intensity reduction at a minimum rate of 2 percent in annual linear terms.

Economic intensity: Reduce emissions intensity per value added by at least an average of 7 percent year on year.

Supplier engagement: Commit to having a specific percentage of suppliers (as a percentage of spend or GHG emissions) with their own SBTs within five years from the date the company's target is submitted to the SBTI for validation.

Resources to use:

There are different levels of GHG emission reduction targets applicable to a company depending on which initiatives they are already signed up to. All Fashion Pact members have committed to achieve the three key climate targets of the Fashion Pact. Those signed up to the Fashion Industry Charter will also need to deliver on their (complementary) goals and commitments. Finally, all Pact signatories are encouraged to set Science Based Targets as validated by the Science Based Target Initiative.

- Fashion Pact targets
- SBTI Apparel and Footwear Guidelines
- Fashion Industry Charter for Climate Action
- SAC BRM guidelines
- SBTI general guidelines on target setting
- SBTI SME guidelines for setting Science Based Targets
- Fashion Industry Charter for Climate Action Playbook, target setting section
- SBTi Criteria, manual and Foundations paper

SECTION 3: REPORTING GHG EMISSIONS AND TARGET PROGRESS

There are several different platforms to report GHG emissions and target progress for companies. The most commonly used external platforms for direct GHG emission and target progress are CDP (formerly known as the Carbon Disclosure Project), Global Reporting Initiative (GRI), and the Sustainable Apparel Coalition HIGG index. A large number of companies that are part of the Science Based Targets initiative report to CDP as they are part of the coalition of organisations.

Fashion Pact signatories will need to report their progress to the Pact each year, and this year's results can be seen in this annual report.

Introduction to credible climate communication

Effective communication on climate indicators like emissions, targets, progress and activities can solidify your company's standing with employees, investors, policy makers and customers. Increasingly, transparent and detailed reporting is a requirement of stakeholders. Climate communication is an art in itself. Therefore it is important to consider the audiences for various climate communication activities. Also, which information will be disclosed is an important consideration. Both the GHG Protocol Corporate Guidance and the SBTi provide information on how to report on targets and progress, and what needs to be included when you have approved targets by the SBTi.

The GHG Protocol Corporate Standard illustrates five principles for GHG accounting and reporting, which are recommended to the Fashion Pact members:

- **Relevance:** Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.
- **Completeness:** Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.
- **Consistency:** Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.
- **Transparency:** Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.
- **Accuracy:** Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

Specifically, the Science Based Targets initiative requires annual reporting on the progress toward the company's targets. This includes a company wide GHG inventory of all emissions (scope 1, 2 and 3) in scope, organisational boundaries, progress against targets, changes in calculations and assumptions, specific exclusions, etc.

External assurance

Companies can choose to have their GHG emission data and target progress data externally verified by third-party. Companies that have ambitious climate strategies often choose to do this because it increases the confidence of various stakeholders that the information presented is accurate (according to a certain degree). Additionally, having external assurance can increase the quality of data collection systems. There are many consultancy agencies that can perform such evaluations and various levels of assurance can be given based on the amount and the quality of the data. The GHG Protocol Corporate Standard specifies all benefits and needs of external verification of emission and target data.

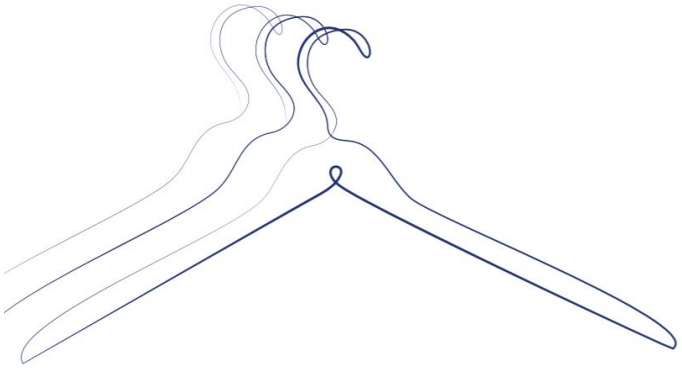
Carbon credits

The SBTi stipulates that the use of carbon offsets (i.e. carbon credits) cannot be counted towards your science-based targets. The main reason is that the SBTi aims to stimulate direct action within a company's own operations or value chain activities. This does not mean that carbon credits cannot play a role as they can support vital projects and provide additional investments in climate related projects. In most reporting schemes the advice is to report on any reductions from carbon offsets separately. To reach net-zero targets, discussions are still underway on the extent to which carbon credits and carbon removals can be counted to reach the target, and how this should be measured and reported. The key thing to focus on is that actual emissions reductions should be given as much investment and focus as possible by a company before using offsets of any kind, and that offsets should only really be used to address emissions that are impossible to reduce through other means.

For this reason, it is also recommended that companies do not use offsets to claim that either products or businesses are 'carbon neutral', 'climate neutral' or similar terms. These claims can gloss over the complexity and nuance of using offsets or credits correctly, and may mislead the consumer. *More details around credible offsetting are addressed within the Climate Leaders Package.*

Biogenic emissions

The SBTi indicates that direct CO2 emissions from the burning of biomass and biofuels, as well as CO2 removals associated with bioenergy feedstock, should be included in reporting in the relevant scopes 1, 2 and 3 - and if biofuels are considered CO2 neutral, the company must provide justification of the underlying assumptions. However, the GHG Protocol also recommends for the GHG sequestration or emissions from biogenic sources to be reported separately from scope 1, 2 and 3.



Resources to use:

There are various guidelines available to support both credible external reporting through a company's own reporting mechanisms or through third party platforms such as CDP - and sometimes through frameworks such as UN Global Compact or TCFD. It is also important to make sure that your claims around your climate reduction progress or use of tools such as offsets is credible. The following guidelines cover a lot of these elements:

- GHG Protocol on accounting and reporting principles
- The Fashion Pact - first annual report
- Fashion Industry Charter for Climate Action - reporting to CDP (signatories only)
- SBTI Apparel and Footwear Guidelines
- BSR and Futerra: Making accurate claims - avoiding greenwashing
- TCFD guidelines on reporting Climate related financial disclosure

SECTION 4: TAKING ACTION

While target setting is of vital importance for reasons explained earlier in this document, it should not stop companies from taking appropriate action while they carry out the process of target setting. It is imperative to reduce greenhouse gas emissions immediately, as every day we wait more emissions need to be reduced tomorrow, and more emissions will likely need to be directly absorbed from the atmosphere in the future. Also, science tells us that we need to half our emissions by 2030 and the SBTi indicated a linear absolute reduction rate of 4.2 percent to have a reasonable chance of staying within the 1.5°C threshold.

This means that even if company level targets might be still under development, it is already clear which interventions will be the most effective in addressing GHG emissions, and companies should start working on impact reductions as soon as possible.. As taking action now is so important, this section will provide examples of what companies can and should be doing to address its GHG footprint. Many of these measures are already proven and can provide significant benefits to companies. The easiest way to classify certain activities and measures are via the emission scopes of your company – scope 1, 2 and 3. However, some activities recommended here go beyond the emissions of the company, for example strategy development, collaboration and policy engagement. Some of these activities will be discussed separately in this chapter.

Addressing scope 1 emissions

Scope 1 emissions are direct GHG emissions that occur from sources that are owned or controlled by the company, think of stores, owned warehouses, owned vehicles, etc. It is normally easier to address scope 1 emissions as the facilities are owned. However, it must be noted that compared to scope 3 emissions, scope 1 emissions generally only account for a few percent of total emissions. This should not mean that nothing should be done, as your company is directly responsible for these emissions.

Some activities and solutions that can be considered to address scope 1 emissions (for example in stores, offices, warehouses, and other facilities) will also impact a company's scope 2 emissions. Some key actions to address scope 1 emissions can include the following:

- Perform an energy audit to determine the energy use in the facility. The same energy audit can also assess the electricity and heat use for the facility. This energy audit should indicate which energy uses might be easily addressed through technological solutions or through behavioural changes.
- Install smart-metering solutions that can help a company track energy use for various facilities or specific areas in a facility. This can drive energy solutions and behavioural changes to reduce energy use.
- Address heating and cooling of facilities by updating and installing energy efficient heating, cooling, ventilation, and air conditioning equipment.
- Assess the insulation state of the facility and upgrade where necessary.
- Assess natural lighting solutions and make use of the Sun's light where possible, also for heating and cooling solutions.
- Assess temperature regulation alternatives within the facility to keep temperatures at acceptable levels.
- Automated temperature and lighting solutions for minimal use for example in the nights, or when the space is not in use.
- Buildings and facilities can be certified according to green building standards such as LEED, BREEAM, or others.
- Reduce the emissions from company cars or owned/operated logistics by increasing the share of electric vehicles, and ensure proper maintenance of the fleet to keep the vehicles in an optimal condition.

Addressing scope 2 emissions

Scope 2 covers GHG emissions from purchased electricity consumed by the company (GHG protocol), for example from the electricity used in a store, office, warehouse, electric vehicles, etc. The emissions themselves are created when the electricity is generated (for example through a coal fired power plant), but since the company is the one using the electricity then the emissions must be counted by them.

Scope 2 emissions are also normally easier to address, as a company has, to some extent, direct control on where they are sourcing electricity from and therefore have a high degree of influence.

Compared to the total GHG impact of a fashion retailer (scope 1, 2 and 3), scope 2 emissions generally account for only a fraction of total emissions.

There are various ways a company can address scope 2 emissions. First, a company can switch to renewable energy through installing on-site generation or through direct contracts with renewable energy providers. They can also buy energy attribute certificates that cover their energy use, so that it can be counted as renewable.

Secondly, scope 2 emissions can also be reduced through energy efficiency and energy saving activities, as these will reduce the overall need for electricity. Some scope 2 activities and solutions can also affect a company's scope 1 emissions. Some key actions to address scope 2 emissions can include the following:

- As in the scope 1 section, an energy assessment should be conducted for each facility to assess options for energy efficiency and renewable energy solutions (on-site, and off-site) to reduce scope 2 emissions.
- Assess all electrical office and facility equipment and upgrade technology with more energy efficient technologies including heating and cooling solutions.
- Upgrade lighting solutions to more efficient alternatives (e.g. LED lighting).
- Beyond energy efficiency solutions that will reduce the need for electricity, installing and sourcing more renewable energy will result in the largest gains in scope 2 reductions. Various options exist for a company to invest in renewable energy for electricity and heat solutions which are explained below.

A company can choose to invest directly in renewable energy generation onsite. Rooftop solar PV panels are the most common solution, but also solar heating solutions are gaining in popularity. Wind turbines are an option for some facilities where enough space is available to install one or several on-site. Depending on the facility, on-site renewable energy can only cover part of the electricity (or heating) needs of the facility.

Where on-site renewables are not a solution or will not cover the entire electricity (or heat) consumption of a facility, off-site solutions can be considered. Purchase power agreements (PPAs) are legal contracts (often) with fixed energy prices over a longer period between the company and a seller of renewable electricity. A company will purchase the electricity directly from such a supplier to power certain facilities and claim the renewable energy to reduce scope 2 emissions.

In terms of climate impacts a company that is looking for the greatest impact beyond reducing emissions, can assess projects that need additional financing to be built, expanded, or completed. In these cases, long-term financing from PPAs can directly support the creation of additional renewable energy which is sorely needed. Ideally all PPAs should be 'additional' i.e. help bring additional renewable energy capacity into the grid.

Companies can also increasingly pursue more flexible options called VPPAs, which still require a direct contract with an energy provider, but can give more geographical flexibility as they do not require the specific energy to be used directly on-site, but only that the same electricity balance is taken from an agreed grid or region. These can be at a country or even regional level – for example

some companies are setting up European-wide VPPAs. They can also be created for a number of companies together, in what is known as a collective or share VPPA. VPPAs should ensure that additional renewable energy capacity is being brought into the grid in the same way as traditional PPAs do, in order to ensure that they are credible – and to also secure the attractive energy prices of renewable energy for the buyer.

Another option is buying energy attribute certificates (EACs) that allow you to retire these certificates and claim the emission reductions that are associated with generating renewable energy. In this case a facility or company is not necessarily sourcing any renewable electricity. It just buys the claim to renewable electricity that is for example generated somewhere in the region - as the credits need to come from the same grid as where the consumption of electricity takes place. Purchasing EACs could provide a straightforward and cost-effective way of addressing scope 2 emissions but in certain cases is not the most effective solution as it does not create 'additionality' in bringing more renewable energy into the grid. The recommendation for creating positive impact beyond addressing the company's scope 2 emissions is to develop quality criteria for the EACs that are potentially purchased. For example, EACs that come from relatively new or to be built facilities. Of course, this does come with higher prices per certificate.

Resources to use:

- Fashion Industry Charter for Climate Action Playbook - scope 1 and 2 section
- Nike Scope 1 and 2 Case study
- Carbon Trust - Energy saving guide
- Carbon Trust - HVAC impact reduction
- Carbon Trust - Digital technologies for energy management
- IEA - The Future of Cooling
- WBCSD and Guidehouse - Corporate guide to electric vehicles
- WBCSD Guidelines for an integrated energy strategy
- IFC edge tool
- World Green Building Council
- Breeam standard
- Leed standard
- RE100
- REBA
- RE-Source Renewable Energy Buyers Kit
- WBCSD guidelines to corporate PPAs
- PPAs vs VPPAS - Schneider Electric
- Using PPAs for SBTS - Schneider Electric

Addressing scope 3 emissions

Scope 3 emissions are all other indirect emissions related to the activities of a company but occur from sources not owned or controlled by the company. These are emissions for example from raw material production and extraction, production processes, transportation, customer use and end-of-life treatment of (semi-) finished products. The solutions to address scope 3 emissions are vast as they cover many different topics and areas. Below is an initial list of solutions for addressing various areas.

Reduced climate impact raw materials

Production and extraction of raw materials takes vast amounts of energy and can create severe negative impacts, not only related to climate. Several strategies exist to reduce the overall impacts of material use, although detailed assessments need to be performed to assess the opportunities and risks of these strategies.

- Materiality assessment: In preparation of activities to address impacts from raw materials, a company should perform one or multiple materiality assessments to determine the sustainability impacts. Based on such assessments a company can make informed decisions on which activities should be pursued.
- Material efficiency: is looking at the optimum use of materials. In the process of for example producing clothes and all the stages that are needed to come to a finished product quite a significant part of the original raw materials used is lost. Optimising the production process from the moment a certain raw material is extracted, to the point a product is assembled can reduce the amount of raw materials needed, thereby reducing the overall impact of the amount of raw materials needed.
- Preferred materials: in some cases, it is worth to assess alternative materials including recycled options – with lower impacts – to produce (semi-) finished products. This does require a detailed and holistic assessment of the positive and negative impacts of the various materials that take all economic, social, and environmental impacts and benefits into account. Switching to an alternative material with a low impact, will immediately reduce the impact of your company.
- Recycling: Scaling up recycling of (semi-) finished products has multiple advantages. One is that it can provide a new resource (e.g. recycled fibres) into the production system of a country, reducing the need for virgin materials. It will take additional energy to recycle products, but these are normally significantly lower compared to the energy inputs for virgin materials with less harmful side-effects.
- Product design: Designing products in such a way that they use material as efficiently as possible and can be more easily recycled (e.g. less or no use of blended materials) will both increase materiality efficiency, ease and increase recycling and reduce costs of related processes.
- Increasing lifespan of products: through activities such as reusing (semi-) finished products or reselling second-hand clothing, the lifespan of products is increased. This, to some extent, reduces the need for new products and therefore reduces overall environmental impacts. This can go hand-in-hand with increased customer awareness to which companies can actively contribute, likely increasing brand awareness and reputation.
- Efficient production techniques: as virgin materials will still be necessary in the foreseeable future, production and extraction methods should become more sustainable. One fairly straightforward way of doing so is through standards. Several standards exist that guarantee more sustainable production of materials like agricultural commodities such as cotton. Naturally, companies can

also look beyond obtaining certifications and actively promote and collaborate – for example in the landscapes where they source materials from – to increase overall certification uptake with farmers.

- Climate and biodiversity: raw material production often also impacts biodiversity and water, for example through over-extraction, land-use change, chemicals, etc. Addressing biodiversity and water impacts can also cause positive climate impacts. Agroforestry, regenerative and organic practices generally all improve the soil health of the farmland. As healthy soils generally mean a significant increase in carbon that is stored in the soil, these benefits can be claimed, to some extent, by the company that is sourcing or investing in such projects.

Resources to use:

- Textile Exchange Preferred fibre benchmark
- SAC MSI
- *Fashion Industry Charter for Climate Action Playbook - raw materials section*
- GHG Protocol - Links to LCA providers
- Quantis World Apparel Lifecycle Database
- Sphera GaBi
- Ecoinvent database
- Cotton 2040
- Better Cotton Initiative
- Organic Cotton Accelerator
- Textile Exchange producer groups
- Responsible Leather Roundtable
- Leather Working Group
- A World of Ideas: Technologies for Sustainable Cotton Textile Manufacturing, Cotton, Inc. (2018)
- Corporate Fiber and Materials Market Report, Textile Exchange (2020)
- Life Cycle Assessment of Cotton Cultivation Systems: Better Cotton, Conventional Cotton and Organic Cotton, Thinkstep (India) for the C&A Foundation, (2018)
- Life Cycle Assessment of Cotton Fiber & Fabric, Cotton Inc (2012)
- Fashion Industry Charter for Climate Action Raw Materials assessment (to be published shortly)

Renewable energy and climate action in the supply chain

Emissions from producing (semi-) finished products often account for a significant part of the climate impacts with the value chain of a fashion company. The materials go through various different stages to become the end product we can buy in a store. Different solutions exist for different stages in this process, and the opportunities depend to some extent on the situation in the region or country where the production process takes place. However, many of the actions seen in the section on scope 1 and 2 actions will apply equally to supplier sites within a brand supply chain. *A separate Supplier*

Climate Package has been prepared for suppliers signed up to the Fashion Pact, or those supplying to signatories.

The improvements that can create significant reductions in emissions (and costs) are energy savings, efficiency, and renewable energy solutions. This will reduce the scope 1 and 2 emissions of that particular factory or installation and will reduce the scope 3 emissions of the fashion brand or retailer. The energy requirements and GHG emissions will be different per factory type and even variable between sites, as specific machine selection and setup can affect energy needs and outcomes. As a first step, an energy and GHG emissions assessment should be performed (if not done already) to assess the main energy needs and reduction opportunities in a factory.

Energy efficiency solutions in a factory can include:

- Boiler replacements and upgrades
- Engine replacements or upgrades
- Heat recovery systems
- Fans and other cooling solutions
- Lighting
- Compressors
- Energy efficient pumps
- Insulation
- Automated systems and sub-metering
- Behavioural changes within a factory can also result in energy savings for example in the way boilers are operated and other machines are optimised, like the simple act of turning off machines and lighting and perhaps the overall production of a factory can be optimised to increase production and reduce impacts.
- Properly maintaining equipment should ensure that machinery keeps operating as efficiently as possible.

Greenhouse gas emissions can often be reduced on site through:

- Alternative technologies for heat production such as solar collectors and heat pumps
- Electrification of systems away from on-site fossil fuel generators
- Using alternative high heat source solutions in existing boilers, such as sustainable second generation biofuels
- Reduction, capture and re-use of GHG intensive inputs such as chemicals

Renewable energy can also support the reduction of emissions and costs. In several countries where clothing is produced, renewable energy – mainly rooftop solar PV – is already a cost-effective alternative to other energy sources. If a rooftop is suitable, a solar PV installation can provide a significant part of the electricity use of a factory - reducing its scope 2 emissions and reducing the scope 3 emissions of the fashion brands and retailers that source from this factory. Depending on the context, suppliers may also have access to renewable PPAs in their marketplace, and can use these to source renewable electricity. These activities can increase the percentage of renewable energy being used as sites reduce the amount of coal and oil currently used by manufacturers to increase sustainable changes.

Suppliers can be supported in various ways to increase the uptake in more efficient or renewable technologies. Engaging with suppliers on the business case for action, focussing on activities with clear return on investment, and connecting suppliers to training and technical support are important elements in helping create change within the supply chain. Supporting factories in making deals around energy sourcing or providing support in terms of direct or cheaper financing can also help. Commercial elements such as longer-term contracts with trusted suppliers can also increase the confidence of suppliers to make longer-term investments in sustainability. Favourable pricing schemes based on sustainable performance can also motivate increased action.

Resources to use:

- Fashion Industry Charter Playbook - Manufacturing section and table A1, A2 and A3
- Textile Sustainability Hub
- Apparel Impact Initiative
- Clean by design programme for mills
- PaCT programme by IFC
- Environmental Good Practice Guide and Toolkit, adidas (2019)
- WWF Pakistan - Best Management Practices in the Textile Sector of Pakistan (with ROI data)
- Alternative and Emerging Technologies for an Energy-Efficient, Water-Efficient, and Low-Pollution Textile Industry, Ali Hasanbeigi, China Energy Group, Lawrence Berkeley National Laboratory (2015) Clean by Design, Aii / Clean by Design
- Energy-Efficiency Improvement Opportunities for the Textile Industry, Ali Hasanbeigi, China Energy Group, Lawrence Berkeley National Laboratory (2010)
- Supply Chain Guidelines: Vision and Ecodesign Action List, Mistra Future Fashion (2019)

Upstream and downstream transportation - sustainable logistics

For transportation there are several solutions available, although the solutions depend on the type of transportation that is necessary. Some solutions that can be considered are:

- Choosing sustainable business partners with an energy efficient fleet.
- Assessing the most sustainable modes of transport for certain goods (e.g. increased use of rail).
- Optimising transportation routes.
- Optimising loads and reducing empty trips.
- Supporting transportation companies in making sustainable investments.

Resources to use:

- Fashion Industry charter Climate Playbook - logistics section
- Smart Freight centre trainings
- Smart Freight Centre guidelines for companies
- BSR Clean Cargo Initiative - emission factors and actions

Use phase emissions

Emissions that come from washing, drying and ironing of clothes make up the bulk of the use-phase emissions of a fashion retailer. This is one of the more difficult categories to address as the influence that a company has to reduce these emissions is almost entirely dependent on the consumer itself. There are a few strategies that can be considered to address the emissions in the use-phase, as they can represent a significant part of a company's GHG inventory.

- Supporting and promoting behavioural changes: washing at lower temps, less frequent washing, less detergent, etc.
- Collaboration with washing machine manufactures, detergent manufacturers, RE companies, etc.
- Renewable energy and heating solutions.
- Recycling and reusing.
- Campaigns (e.g. in stores).

Resources to use:

- WRAP report on customer use phase
- The Clevercare label and app

Activities beyond your value chain

More companies are also considering their positive and negative impacts beyond their own value chain and have come to realise that to address the climate and sustainability challenges in earnest, they cannot go at it alone. Therefore, fashion companies are increasingly working together with other brands and organisations (CSOs, NGOs, governments, consultants) to increase the scale of their projects and initiatives, with the intention to bring positive change in terms of social and sustainability issues.

Another avenue is engaging directly with policy makers in countries or regions in which your company is directly (selling goods) or indirectly (producing products or raw materials) active in. More companies are developing strategies to actively promote and ask for better policy changes and incentives that would help their business and the sector to become more sustainable. This can be through showcasing a high ambition level of a company and asking governments to follow suit, or by asking for specific elements, like increased ambition of certain policies, increased sustainability incentives such as for generating and sourcing renewable energy, to trying to halt certain negative developments that might have significant negative environmental consequences.

Circular business models and design

Design and business models can have a huge impact on the GHG emissions of a product. Many guidelines exist to support companies in harnessing sustainable and circular design, or understanding the link between product specification and impact. Other organisations are looking at how the business model itself can radically reduce GHG emissions at product, company or sector level. The

GFA Climate on Fashion report explores the role that circular solutions can play in reducing emissions, and UNEP will shortly publish an updated textiles industry roadmap for circularity, exploring the role of circularity in addressing key impacts including climate change.

Resources to use:

- SBTi guidelines to business policy engagement
- Guidance for Fashion Companies on Design for Recycling, Mistra Future Fashion (2019)
- Promotion of Circular Economy in the Mexican Apparel Industry, Mexican Center for Environmental Law funded by C&A Foundation (2019)
- Textiles and the Environment in a Circular economy, EEA's European Topic Centre on Waste and Materials in a Green Economy (ETC/WMGE) (2019)
- Textiles in Europe's Circular Economy, European Union Environment Agency (Briefing) (2019)
- The Future of Circular Fashion: Assessing the Viability of Circular Business Models, Accenture and Fashion for Good (2019)
- A New Textiles Economy: Redesigning Fashion's Future, Ellen Macarthur Foundation (2017)
- WRAP durability guidelines
- Mistra durability guidelines
- Designforlongevity.com