OUR METHODOLOGY

STICA requires that its members follow the methodology and recommendations of the Greenhouse Gas Protocol standard when reporting greenhouse gas emissions. To ensure quality, robustness and consistency, companies are required to follow the guidelines and support documents outlining the reporting requirements within STICA, including guidance on emission factor sources and how to handle scope, exclusions, assumptions and estimates made. STICA also performs quality checks on a select group of companies' reports each year to ensure their quality and to provide additional guidance.

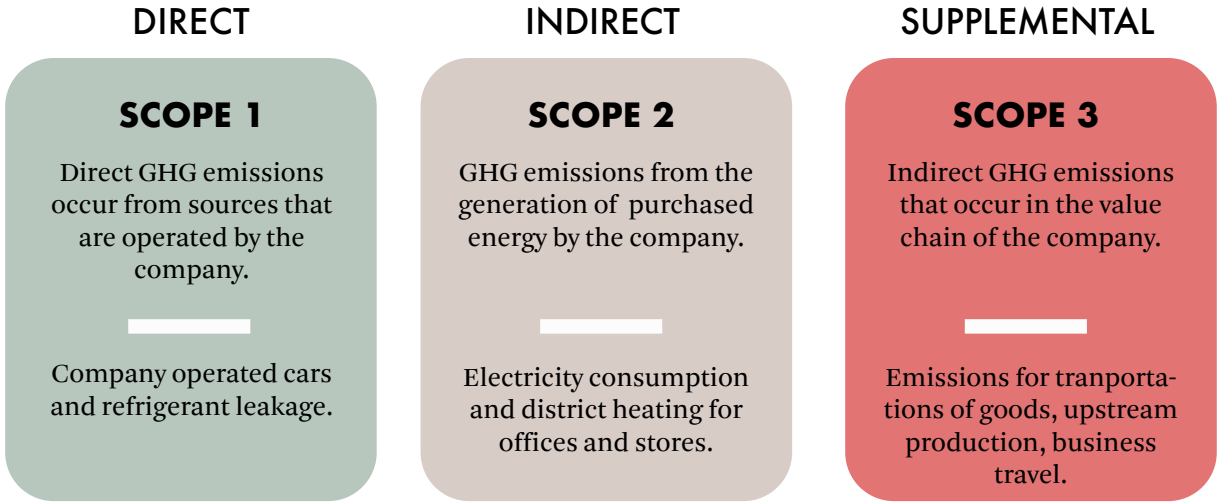
In the STICA reporting, companies are required to disclose emissions within Scope 1, Scope 2 and selected categories from Scope 3. These categories cover purchased goods and services (excluding indirect material, such as office supplies and store interior), upstream and downstream transportation and distribution, and finally, fuel- and energy-related activities. In addition to these required categories, many companies also choose to disclose emissions from the recommended categories: business travel, use of sold products, and the excluded parts of purchased goods and services.

The required scope of reporting is based on a combination of the relative size of these categories in terms of emissions, and the recommendation from the Science Based Targets initiative to account for at least two-thirds of Scope 3 emissions excluding the indirect use phase, such as washing and drying. Generally, the categories included in the STICA scope cover the most significant emission sources, i.e. two-thirds of Scope 3 emissions, for companies in the apparel and footwear sector. Should member companies have significant emission sources elsewhere, they are strongly recommended to include these as well. STICA requires that its members apply the operational control approach and the market-based method, as described in the GHG Protocol. For target setting, STICA requires companies to align with a set of criteria, and set targets in the near term, towards 2025-2030. These criteria are available here.

When calculating greenhouse gas emissions, companies use a variety of data sources and estimated values. For production of purchased products, most companies use a combination of actual data from suppliers, and estimated values for the parts of the supply chain where actual data is not yet available.

IF YOU DON'T MEASURE YOUR EMISSIONS, YOU CAN'T MANAGE THEM

The first step in decreasing emissions is mapping and measuring them. The Greenhouse Gas Protocol was established in the late 1990s and is the global standard for accounting and reporting emissions from private and public sector operations, value chains and climate actions. The standard is divided into three scopes:



THE STRENGTHS AND LIMITATIONS OF THE CURRENT STICA METHODOLOGY

When reviewing and interpreting the results reported for each STICA member company, it is important to keep in mind both the strengths and limitations of the methods used for calculations and reporting. In this section, we specifically address some of these under the following headings: 1) The strengths and limitations of the GHG Protocol; 2) The STICA scope; 3) Accounting for product quality and longevity; 4) Data quality and uncertainty; and 5) Target-setting methods.

THE STRENGTHS AND LIMITATIONS OF THE GHG PROTOCOL

Firstly, the STICA method is based on the GHG Protocol. Few frameworks within sustainability have reached the same widespread use and level of acceptance. All major reporting initiatives and frameworks rely on these rules and requirements for consistency over time. However, the GHG Protocol also has some limitations, such as:

- **Inclusion criteria** for Scope 3 are not specifically outlined in the GHG Protocol, meaning that the activities included in disclosures may vary significantly. To counter this, STICA has defined the minimum parts of the members' businesses to be included, using the Science Based Targets guidance for apparel and footwear as well as screenings made by individual companies.

- **Comparability** between companies is not an explicit objective of the GHG Protocol. Many actors, however, still use the results this way. But the activities included in company disclosures may differ between STICA members. For instance, some members measure the impact of e.g. business travel, and some do not. This means that the data presented may not be comparable. STICA is aware that this can lead to misleading conclusions, but also sees value in presenting company results together, to help inspire and challenge STICA members. The reader is advised to consider this when reviewing the information presented.

- **Biogenic emissions** and/or emissions from changes to how land is used (often called LULUCF) is partially addressed in the current version of the GHG Protocol, but an addition focusing on land-use emissions is under development and will become a required part of GHG-accounting in the future. This will add additional emission sources and thereby data collection and reporting work. As this addition will have an impact on textile companies' reporting, STICA is currently monitoring the developments of the GHG protocol's Land Sector and Removals Guidance but has not yet developed guidance for member companies on how to address this.

STICA, along with most other initiatives, has chosen the GHG Protocol for accounting and reporting, as this is currently the best available option. We feel comfortable that we have mitigated the main drawbacks of the current protocol and how it is applied to the apparel and textile sector. STICA continuously monitors the development of frameworks and accounting rules to ensure we are using the most robust and relevant standards.

THE STICA SCOPE

As mentioned in the methodology section, STICA member companies are required to report emissions from selected parts of their value chains in addition to Scope 1 and 2. STICA's Scope 3 requirements are based on SBTi's inclusion criteria stating that two-thirds of emissions in Scope 3, excluding e.g. the indirect use phase emissions, should be included. The categories listed below generally meet the inclusion criteria for apparel and footwear companies based on screenings of several global apparel and footwear companies. Therefore, individual members are not required to perform complete Scope 3 screenings, which is a requirement for companies getting their targets validated by the SBTi. The justification for the STICA scope is described in more depth in STICA's Reporting Guidelines. These requirements are described briefly below, together with a reasoning for why they are required:

- **Scope 3 Category 1: Purchased goods and services (direct)** include emissions from producing the products that the companies sell, from production of raw material through to a finished product and packaging. In most cases, this is by far the most significant emission source for a textile company, and on average may represent 80% or more of its emissions and should be a crucial part of any textile company's reporting.

- **Scope 3 Category 3: Fuel- and energy-related activities** such as production and distribution of fuels used in Scope 1 and 2 activities are often a small part of the overall Scope 3 emissions for apparel and footwear companies. However, these emissions are included in the accounting as it is seen as an extension of the Scope 1 and 2 emissions.

- **Scope 3 Category 4 and 9: Upstream and downstream transportation and distribution** that companies purchase is also a significant source of emissions from trucking, air freight and maritime shipping. These emissions are accessible for companies both in terms of data and on reduction opportunities and are natural to include in the emissions accounting.

In addition to these, STICA offers some support in measuring and reporting emission from optional Scope 3 categories, briefly described below:

- **Scope 3 Category 1: Purchased goods and services (indirect)** cover emissions from store interiors, hangers, office equipment, purchased services etc. that are not sold by the company. This category is optional in order to decrease the reporting burden on companies, and to help them focus on the major emission sources.

- **Scope 3 Category 6: Business travel** is often included in company accounting, even though in many cases it may be a fraction of the emissions. This is generally due to the fact that companies have direct control over how employees travel, and the data is readily available. STICA has opted not to require this, again to reduce the reporting burden and to focus on major emission sources. However, a number of companies still report emissions in this category.

- **Scope 3 Category 9 and 11: The use of sold products and consumer transport** are not required to be included in the reporting. The emissions from the use phase, e.g. from washing and drying of garments, are a significant category in terms of emissions for apparel and footwear companies. These emissions are however outside the minimum boundary as defined by the GHG Protocol and should therefore, according to the SBTi, not be included in companies' targets. Meanwhile, the SBTi recommends apparel and footwear companies set separate use phase and consumer transport targets due to their significance as sources of emissions. STICA currently does not require companies to measure emissions from the use phase but is actively looking into this. Primarily, this is because of the uncertainty in the underlying data, where consumers' use and transports are very difficult to measure credibly, and any emissions reductions can be hard to substantiate. The section below further highlights challenges with measuring the use phase impact.

Member companies are therefore encouraged to investigate their use phase emissions to get an understanding of the relative size of these emissions, and which parameters impact the emissions.

ACCOUNTING FOR PRODUCT QUALITY AND LONGEVITY

It is important to highlight the issue of product quality and therefore product longevity, and the role this can and should play in the accounting of a company's emissions and in its emissions-reduction strategies. The theoretical discussion on longevity is as follows: even if one high-quality product has larger GHG-emissions in the production phase than another, if this product is used many more times because it is of better quality, then this could result in lower GHG-emissions overall. This is because the higher-quality product would, in theory, be used more – and therefore decreases the need for the customer to buy an additional product. As a result, this can lead to a decrease in the total amount of GHG-emissions when comparing the total emissions of using one product versus many for the same purpose.

In theory, this can be true. But in reality, it can be hard for a company to know if the emissions actually decrease, this is because:

- It can be difficult to prove how much a customer **actually** uses a product. In theory, a customer can buy a better product that lasts longer, but still not use it more. This is because customers often underutilize high-quality products.

- Customers also tend to overconsume products due to factors like fashion trends, low prices and procurement policies, leading to the purchasing of more products than needed.

- The emissions per product will still matter. For instance, if the lower-quality product creates **significantly less GHG-emissions** than the high-quality product, the benefits of buying and using the higher-quality product might no longer be sufficiently significant to offset the production emissions. Lower-quality products, however, could lead to other problems, like increased waste or, if the products are cheaper, lower wages for workers. These issues are not accounted for if the only focus is on GHG-emissions.

When accounting for emissions in a company-wide perspective, the quality and longevity can be included in performance tracking and targets by including them in KPIs that are connected to the number of uses that their products have, such as "total GHG-emissions"/"number of uses" which should be as close to zero as possible. This allows companies to use longevity and quality improvements as a direct measure in reducing emissions, given that they do not produce and sell more new products. Increasing the number of uses per product sold should therefore be in the apparel and footwear industry's interest. This introduces demands on circular business models such as repairs, reselling and others to prolong the life of the products and generate new income streams for the companies.

For economic-based KPIs like emissions per revenue or "value added," such quality and/or longevity increases are included in economic terms, as a higher-quality product would fetch a higher price. For example, a company that offers a repair service for its products can take a higher product price while prolonging the life of the product. As we have seen, the actual number of uses is very difficult to measure, so measurements of any such targets and KPI's must be clearly defined and justified and will need to be considered credible by STICA. We are following the EU's development of the Product Environmental Footprint closely, as this methodology will potentially include a way to measure product longevity.

DATA QUALITY AND UNCERTAINTY

When surveyed, many of the STICA members quote data collection and quality as a significant challenge. Data availability, quality, representativeness, and the sheer volume of data raise challenges for truly understanding a company's impact and options for emissions reductions. Like many of the world's commodities, textile value chains are complex and span much of the globe today. From the cotton field to the finished pair of jeans, there may be a large number of companies handling, processing, reselling, laundering and packing the product. This makes it challenging for an individual company to collect data from all these actors, even if that is the goal that STICA member companies are working towards. That is why many companies combine average data from parts of the value chain with actual data from others. Currently, and for the foreseeable future, this is the reality for industry.

Using average data and emissions factors carries some uncertainty, especially when used on a general level. For example, many companies use weights of different materials and a global average for producing the fabric required. This means that information such as which processes or energy sources are used, or even which countries of origin are relevant, is to a high degree unknown. Even when these are known, there is still a need for emission factors representing the specific processes, energy sources or geographies involved, and these are often difficult to track down, or do not exist.

In summary, we see three drivers of this uncertainty: 1) the company's own data and the level of detail; 2) the availability and representativeness of emission factors or average data; and 3) the quality of the data in these emission factors. We will elaborate on the latter below.

Currently, STICA recommends using the emission factors from the HIGG Material Sustainability Index (MSI) when working with average data. STICA has been following the recent criticism of the MSI closely and acknowledges the critique. The critique put forward refers to consumer marketing claims using factors from the MSI, but also relates to the validity and representativeness of the factors. From STICA's perspective, the HIGG MSI is currently the most widely used database for working with average data and emission factors in the industry. However, as with other secondary data sets, the MSI has limitations:

- **Data accuracy** is a problem when the content of an emission factor is lacking. The data can be old, non-representative of processes or geography, or have other limitations in the specifics of how it is used. The accuracy of the data in an emission factor relates to how it is applied. A global average cotton production factor for 2021 is a poor indicator for cotton produced in Egypt using irrigation agriculture in 2009, but it could be useful to represent a market mix. This is often the case with all types of emissions factors, and the MSI is no exception.

- **Method accuracy** occurs where the method applied is not representative of the reality of a production system or market or is used for comparisons between materials. An example of this is allocation methods: in a wool production system

where both meat and wool are produced together, this is apparent. The emissions from this system can then be allocated to these two products, for example by using economic terms, such as the share of the income generated by each, or by physical terms such as protein content. Depending on the choices made when creating the factor, the different methods can give very different outcomes in emissions. This issue was also highlighted in a recent KPMG review of the Higg MSI. The experts participating in the review argued that *"Higg MSI, used as a stand-alone tool and incorrectly, could be prone to misinterpretation as the tool does not integrate a proper functional unit definition, as "per kg" is currently used but has clear limitations. For example, a certain material "A" could have a lower environmental impact per kg than another material "B". However, material "A" could require more weight than material "B" to deploy the same function, potentially leading to higher impacts if material "A" is selected instead of material "B". This example illustrates how the Higg MSI could be prone to misinterpretation due to its functional unit."* [1]

- **System-wide impacts, or marginal issues** reflect the fact that using emissions factors, such as those from the MSI that attempt to capture current global average data when making decisions on e.g. fiber choice, can be problematic. For example, if companies move from using conventional to recycled polyester, they will create additional demand for recycled polyester that may be produced in a new way and that does not reflect the data we have for the global average of recycled polyester production, for instance if the new factory producing recycled polyester uses coal-fired boilers.

- **Data ownership and bias** combined with a **lack of transparency** is also problematic. Most available average data is owned by private companies, hindering users from disclosing more details on their impacts. Much of the available data is also difficult to access in a practical way, often being fixed values for GHG-emissions, rather than energy consumption figures that would be more useful. A significant share of global average data is also produced by business networks and industry organizations, which causes concerns on the built-in biases in some of the datapoints. For example, LCA impacts for individual fiber types, such as cotton or polyester are often produced by cotton or plastics industry associations.

- **Not accounting for all impact categories** is another perspective that companies must account for. Today, STICA only requires members to report their climate impact, but this should not be the only parameter to account for by member companies when setting their fiber strategies. Biodiversity and microplastics are other important aspects to consider, which the KPMG review pointed out. The MSI currently does not account for these impact categories, and there is no clear scientific consensus on how to measure the impact on biodiversity and microplastics.

The uncertainty in the average data outlined above could furthermore lead to questionable conclusions on material or process choices, and STICA recommends that our members carefully consider this uncertainty when choosing a reduction strategy.

STICA acknowledges that using some average data is an absolute necessity for the foreseeable future, and there will always be uncertainty and inaccuracy in this way of working. For the time being, average data can help companies to understand their emissions hotspots and their emissions trajectories. STICA is, however, actively working to improve the way we work with the data, and together with member companies, aims to increase the amount of primary data, as well as to improve the quality of the available average data. For the time being, however, average data can help companies to understand their emissions hotspots and their emissions trajectories.

With that being said, to ensure credibility in the STICA reporting, companies are required to substantiate any reported emissions reductions by motivating any changes in their emissions transparently. Should there be any changes stemming from changes in organizational or operational boundary, in methodology used or from other inorganic changes, members are required to recalculate their base years to ensure comparability over time. For instance, if a company starts replacing average data with primary data and sees a significant emissions reduction based on this methodological change, they should consider recalculating their base year inventory.

1 KPMG, Technical review of the Higg MSI and Higg PM tools (2023)

TARGET-SETTING METHODS

To stay below 1.5°C warming by the end of the century means a drastic reduction of emissions. The Science Based Targets initiative has translated this into a requirement for all companies to cut their emissions by 42% every decade. This is based on the carbon budgets set out by the IPCC for keeping warming in line with 1.5°C.

A number of methods are available to guide companies in setting GHG-emissions targets. Generally speaking, these are: absolute reduction targets; intensity targets based on either physical or economic intensities; sectoral or product emission targets, such as the SDAs from the Science Based Targets initiative, or the One Planet Plate from WWF; supplier engagement targets. The absolute reduction method is often considered the most ambitious and credible approach, as it ensures that a company reduces its total emissions. In other words, this approach effectively caps the emissions of the company. This is why STICA strongly recommends that its members set absolute reduction targets.

However, setting targets in this way does not account for some unique challenges or situations:

- An absolute target implies that because a company has emitted large amounts of greenhouse gases historically, **it should be entitled to a larger share** emissions budget. A company that is twice the size and therefore may have twice the emissions will have twice the emissions budget to work with.

- **New entrants** to the market or small companies usually have very low emissions from the start. In this case, an absolute target requiring them to halve their emissions by 2030 can be difficult to achieve because their emissions budget is very small to begin with. This will be the case even if they have products that on average incur a fraction of the emissions of established companies.

- **High-performing** companies who have already taken significant action to reduce their emissions are also required to halve their emissions, like those who have not yet started. To some extent this means they will have a harder time reaching the target as they have already picked the lowest-hanging fruit of emissions reductions.

- A variant of the above is companies **aiming to take market share** in a slowly expanding sector. In this case, an absolute cap on a company's emissions could, in theory, be at odds with the goal of reducing the total emissions of an industry sector. For example, a company that produces products that have a relatively lower greenhouse gas profile could out-compete companies with worse-performing products. As this company grows, its products could replace those from companies with higher greenhouse gases, thereby reducing the overall emissions of the sector. But, as the company grows, its overall company emissions would increase, while the sector's overall emissions would decrease. Further, as the apparel and footwear sector has grown steadily in recent years, and is expected by some to continue growing, can we be comfortable trusting that the absolute emissions are not increasing? This is the theory, but it is based on many assumptions and is difficult to substantiate.

STICA is aware of these challenges and therefore temporarily allows companies to use other target types while requiring transparency on how these targets influence their absolute emissions. You can read more about our current target-setting requirements here.