



Take urgent action to mitigate climate change and its impacts.

Bru Textiles strives to become a Forever Company, creating a positive impact and delivering change to ensure a sustainable future for generations to come. To do this, we are strategically molding our business vision and evolving our sustainability actions according to the [UN Sustainable Development Goals \(SDGs\)](#), and the relevant SDGs within this framework.

This framework provides shared alignment to a unified blueprint and global partnership, the main ambition of which is to combat climate change and create a better, safer environment for all by 2030. To be effective, we have focused our attention and established specific, measurable, achievable, relevant, and time-bound goals (SMART). Our goals have been centered on 5 key SDGs, that are within our core spheres of influence:

- SDG8:** Decent work and economic growth for ourselves and our partners
- SDG12:** Responsible production & consumption of our textiles
- SDG13:** Taking climate action by understanding our footprint, up and down stream
- SDG16:** Transparency and traceability of all our products
- SDG17:** Partnerships internally and externally of our business to ensure positive change

The challenge for the textile industry is finding suitable sustainable fabric alternatives, many still requiring research and technological development (RTD). This RTD will need to be conducted in partnership with our customers, our mills, our employees, as well as available sustainable resources (natural or recycled).

But, not all change happens immediately and none of us can do this alone - to be effective we have to work together. We want to engage with all our stakeholders to do the right thing. Our strategy has included the development of practical and easy to use playbooks for suppliers and partners. The objective with the playbooks are to create collaborative paths to sustainability.

About this Playbook

In this Playbook, we share our approach to SDG 13 | Take Climate Action.



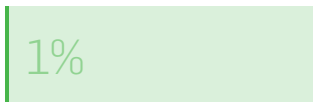
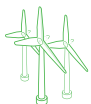
Playbook | We elaborate on how you can **take climate action** and measure, manage and reduce the Green House Gas (GHG) emissions of your operations and products.

In 2021, we took our first step to understand our carbon footprint. We did this for two reasons; 1) to understand what our impact was and 2) to understand the start point from which we could begin to reduce our footprint. Based on the data, we identified three main pillars of impact:



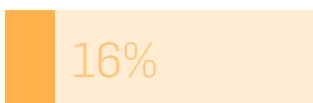
Products

More than 80% of our carbon emissions are caused by our products, where our direct impact is limited



Operations

Less than 1% of our carbon footprint is due to our own operations which is in our direct control



Transport

16% of our carbon footprint is due to the transportation of our products across the globe

This playbook unpacks the basics of carbon foot printing and provides the means to get started. A complimentary calculation template is provided as well. Following the playbook, you will understand the need to take action to reduce climate impact, have knowledge of the greenhouse gas protocol and have insights into how to take your first steps to make sustainable changes.



Take urgent action to mitigate climate change and its impacts

The entire textile industry is a **large contributor** to greenhouse gas emissions through use of resources, energy use and transport. Although we are separate from the apparel and fashion industry, the interior and exterior furnishing fabrics industry needs to ensure we partner and innovate towards sustainable textile production, transportation and educating consumers regarding purchasing decisions.



What is the challenge?

Energy production and energy use are a significant source of air pollution and greenhouse gas (GHG) emissions. The operational, environmental and financial impacts of energy are key issues for facility operations. Energy efficiency and use of renewable energy is an important area of focus for all industries, including both operations, as upstream emissions linked to purchased goods, and services acquired to produce fabrics.



Why is it important for you?

Reducing your energy consumption and identifying and managing the source of GHG emissions will help you to reduce your exposure to regulatory risks and anticipate new requirements from the sector or your customers. Also, you will increase your competitive advantage by mitigating the risk of fossil fuel and energy cost increase. Through tracking and driving strategic reductions to shift towards lower carbon products, your facility is demonstrating environmental stewardship, something Bru Textiles and other customers might expect more and more of in the future. Taking action on energy usage within your facilities will not only reduce GHG emissions, but might reduce costs and improve your processes.



What can businesses do?

You can reduce your direct GHG emissions by reducing the total amount of energy used at your facility and/or by switching to cleaner fuel sources. To better understand how and where to improve, you first need to start by measuring energy use and correlated GHG emissions. This can be done by calculating your **corporate carbon footprint**.

Corporate carbon footprint

What is a carbon footprint?

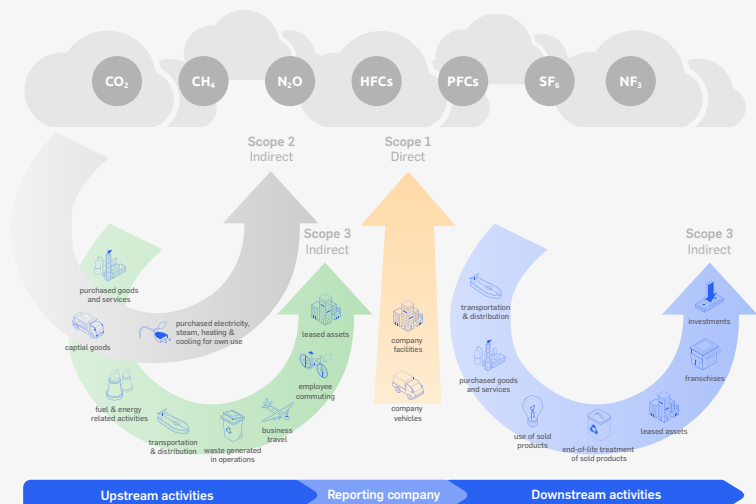
A corporate carbon footprint is the calculation of all greenhouse gasses released into the atmosphere as a result of the activities of a company. The gases includes both direct emissions - generated on corporate property - and indirect emissions - linked to company activity. All greenhouse gases are accounted for, but their effect is recalculated and **expressed as CO₂-equivalents**. In a carbon footprint all sources of greenhouse gasses are mapped, mainly from energy generation and use, transportation and use of refrigeration gases. It therefore gives you a good insight in the hotspot of your emissions and pinpoints you in the direction of largest reduction opportunities.

How is a carbon footprint calculated?

The calculation of a carbon footprint will involve gathering data from a variety of sources within your company. Several standards exist to allow for a structured calculation of your carbon footprint. The most used and internationally acknowledged standard is the **Greenhouse Gas (GHG) Protocol**.

The protocol divides a company's carbon emissions into three categories (or scopes). Each scope accounts for a different set of emissions. The visual gives an idea of what is counted in each scope.

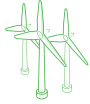
- Scope 1: Direct emissions from sources owned or controlled by the company (e.g. natural gas combustion for steam production or fuel consumption of company cars)
- Scope 2: Indirect emissions from the generation of purchased electricity
- Scope 3: All other indirect emissions which are a consequence of the company activity, but occur from sources not owned or controlled by the company (e.g. extraction and production of purchased fibres)



The hotspots of a textile supplier's carbon footprint

A company active in the textile industry generates emissions across the whole value chain. These emissions are largely due to the combustion of fossil fuels for energy, e.g. for the processing of raw materials, the production of the fabrics or the transportation of the fabrics to the customer. The emissions can be directly linked to the company in scope, or indirectly, emitted by suppliers or clients. Therefore, all actors within the value chain have an impact on each-others carbon footprint. Collaboration is therefore key to reduce the footprint of the whole value chain.

Across a textile company's value chain, three key sources of GHG emissions can be identified:



Operations

The first source of emissions are greenhouse gasses related to the energy used during operations. This includes both emissions linked to the fossil fuels burned and the production of purchased electricity used in manufacturing processes as well as any other type of energy sources that are used by the company for canteens, dormitories, vehicles, etc. These emissions are in the company's direct control, and should therefore be the first point of attention.



Products

Often the largest emission source within a textile company's value chain carbon footprint, are the upstream emissions emitted during the processing or production of goods purchased by the company. These emissions take place upstream, out of the companies direct control. Insight on these emissions can help take strategic decisions on which materials to use as raw materials for the fabrics produced.



Transportation

The third important pillar of emissions is the transportation of goods, both from suppliers to the company facility, as well as from the facility to the customer. Next to the distance travelled, the type of transport used - e.g. air freight versus road transportation - has a big influence on the amount of emissions related to the transportation of the goods.


This section of the Playbook will focus on how to calculate and reduce GHG emissions related to your own operations (**part I**) and related to products and services you purchase, mainly the fibres and fabrics reduce GHG emissions where possible (**part II**). Since the reduction potential for transportation is assumed to be limited, we share our key take aways to inspire your company to in order for you to reduce where possible (**part III**).

[Get started and calculate your direct carbon footprint >](#)

Part I | Calculate and reduce direct GHG emissions from operations

Step 1 | Collect data & calculate direct GHG emissions

In order to calculate a carbon footprint, a company should track the sources of energy that are used. This includes both energy sources used in manufacturing processes as well as any other type of energy sources that are used by the company for canteens, dormitories, vehicles, etc.

A simplified carbon footprint calculation tool is provided by Bru. 

The calculation sheet consists of the following parts:

Part I - General info

General info on the company and the entity covered in the calculation. Total output volumes for the reporting years can be added to calculate results in kg CO₂ per kg output product. Furthermore, the company can describe which actions it can take to reduce its carbon footprint. Disclosing exclusions from the inventory will improve transparency.

Part II - Collect data

Collect data on your scope 1 and 2 emissions. Do not only cover energy used for processes, but include energy used for vehicles, dormitories, offices, etc. The fuels on which one has to report are divided in stationary combustion, mobile combustion and purchased electricity. Fugitive emissions from refrigerants can also be reported. Fill in the data for the defined reporting year to calculate correlating GHG emissions.

Part III - Carbon footprint results

The data is converted into GHG emissions using general emission factors provided in the tool. The carbon footprint is visualised in a set of relevant graphs and tables which allow you to identify emission hotspots. Both absolute and relative results are calculated if data on product volumes is provided.

Next step: Start taking action to reduce these emissions.

carboncap

If you want to perform a more refined carbon footprint calculation and measure, manage and reduce your CO₂ emissions in a simple yet thorough way, you can use an online carbon management tool, such as www.carboncap.be. Feel free to reach out to Bru if you would be interested in this.



Bru is very interested to learn about your company's carbon footprint results. This will help us to better understand our own upstream emissions and allow us to better help you to reduce your emissions. We therefore ask you to share your carbon footprint calculation with us.

Step 2 | Reduce direct GHG emissions

Reducing fossil fuel dependency should be the main focus when reducing direct GHG emissions. This can be done in four ways:

- 1 Reduce energy use**
 - Upgrade production line with modern and energy efficient machinery
- 2 Switch to renewable electricity**
 - Invest in own renewable electricity production such as photovoltaics
 - Switch energy contract to 100% renewable electricity, if possible
 - Buy Renewable Energy Certificates
- 3 Switch to alternative fuel sources**
 - Electrify where possible (vehicles, machinery)
 - Research alternatives such as green hydrogen from fuel cells

Reduce your emissions in line with science

Lead the way to a low carbon future.

Set a science based reduction target if you want to ensure you are reducing your emissions in line with the global goal to limit global warming to 1.5°C carbon management tool, such as carboncap. Feel free to reach out to Bru if you would be interested in this.



The Science Based Target Initiative, a collaboration between CDP, UN Global Compact, WRI and WWF, enables business to set ambitious emissions reduction targets in line with climate science. It is focussed to accelerating companies across the world to halve emissions by 2030 and achieve net-zero by 2050.

Part II | Calculate and reduce upstream GHG emissions from products

Step 1 | Collect data & calculate upstream GHG emissions

In addition to a company's direct emissions, as calculated in part I, analysing and taking action in the value chain is a vital step for any business that wants to become more sustainable and prepare for a low carbon economy. For the textile industry specifically, most attention should go to the (production of) the yarn and fabrics.

Calculating the upstream emissions linked to the yarn and fabrics you purchase is a challenging task. Ideally, your suppliers can provide you with specific data on the emissions generated during the production of the fabrics you have purchased and processed - however your suppliers might not be able to share this data with you. This calls for the need to use sector average values.

Calculate upstream emissions from yarn and fabrics with the Higg Index

The Higg Material Sustainability Index (Higg MSI) is a cloud based tool by the Sustainable Apparel Coalition. This tool is to our knowledge the most comprehensive tool to assess the impact of fabrics using sector averages. Although originally build by and for the apparel industry, the lessons learned apply to household fabrics as well. Important to note is that the Higg MSI focusses on the impact of the production of the fabric. The use-phase is not taken into account.



The Higg MSI allows to assess the **global warming potential of a specific fabric**, based on the different steps in the production of the fabric - from the raw material used, over the yarn and textile formation to the dyeing and finishing.

A **database** is available for generic fabrics, but users of the tool can also create custom materials to calculate the carbon intensity of their specific portfolio.

Using the Higg MSI to evaluate your product portfolio allows you to get insights in the upstream emissions linked to your products and highlights the hotspots within the production process.

Learn more about the Higg Index [here](#).



Bru Textiles is eager to work together to make innovative product shifts to reduce the upstream impact of your products.

Step 2 | Reduce direct GHG emissions

Lessons learned from Higg Index with regard to material composition

The yarn used to produce a fabric is a major contributor to a fabric's upstream emissions. Shifting towards fabrics with a lower impact material composition is one of the main solutions to reduce product emissions.

In the table the impact of some fabrics – all woven, 180 denier and batch dyed, is compared to show the importance of the material used. If you wish to get insights in your specific custom materials, **we encourage you to join the Higg MSI and create your own custom materials**. Please keep us informed, so we can use your materials to simulate our upstream impact.





Fabric	kg CO ₂ e / kg of fabric	Source
Recycled Polyester	14.6	Higg MSI
Conventional polyester	17.2	Higg MSI
Organic cotton	17.6	Higg MSI
Cotton	18.9	Higg MSI
Polyamide	23.1	Higg MSI
Silk	89.8	Higg MSI

Part III | Key take aways on GHG emissions from transportation

Transportation of the goods is the third significant source of emissions. Although we assume the reduction potential for this source is rather limited, we share our key insights.

Freight is a major source of emissions due to the combustion of fossil fuels in trucks, planes or ships. The amount of emissions per transported good differs a lot between transportation modes. As a rule of thumb the following can be stated: **the slower the transportation mode, the lower the carbon intensity of the transport**. Hence, in general, air freight emits more than road freight, which in turn emits more than rail freight. Sea freight is the lowest emitting transportation mode.

The emission factors for transportation are expressed as emissions per ton-kilometre (ton.km). The ton.km is a unit of transport performance expressing transportation of one ton of freight over a distance of one kilometre. The ton.km thus indicates the transport performance expressed in terms of both distance and delivered weight (CE Delft, STREAM Freight Transport 2020). As can be seen from the table below, short haul air freight generates more than a hundred times more emissions per ton.km than maritime shipping.

	Mode of transport	WtW* emission factor (kg CO ₂ e / ton.km)	Source
	Air freight, short haul (< 1500 km)	1.399	CE Delft, STREAM Freight Transport 2020
	Air freight, medium haul (> 1500 km, < 6000 km)	0.556	CE Delft, STREAM Freight Transport 2020
	Air freight, long haul (> 6000 km)	0.525	CE Delft, STREAM Freight Transport 2020
	Road freight, semi-trailer, heavy	0.088	CE Delft, STREAM Freight Transport 2020
	Rail freight, long container train	0.018	CE Delft, STREAM Freight Transport 2020
	Maritime shipping, deep sea container ship	0.012	CE Delft, STREAM Freight Transport 2020

This stresses the importance of smart supply chains. Foresightful planning - taking into account longer transportation times - and opting for slower transportation modes where possible, can strongly reduce emissions related to transportation. Bru Textiles is eager to work together to take climate action and reduce Green House Gas Emissions.