



Carbon footprint of Studio Anneloes

Reporting year: 2025

Reporting Company

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STUDIO
ANNELOES

Executive summary

This document reports on the quantification of the CO₂ footprint of Studio Anneloes. The scope of this CO₂ footprint covers the emissions from Studio Anneloes operational activities in order to identify opportunities to reduce the carbon footprint of the business activities. By carefully considering the organizational and operational boundaries, the components in Table 1 have been included in this study:

Table 1. GHG scopes and impact categories

GHG scopes	Impact categories
Scope 1 - Direct emissions	Company facilities, Company vehicles
Scope 2 - Indirect emissions	Purchased electricity, steam, heating and cooling for own use
Scope 3 - Indirect emissions	Purchased goods and services, Fuel and energy related emissions, Upstream transportation & distribution, Waste generated in operations, Business travel, and Employee commuting

The input data in these categories is linked to environmental data from various databases. Emissions are expressed in ton of CO₂ equivalent, a unit used to measure the degree to which greenhouse gases contribute to climate change. The effect of one kg of methane, for example, is equivalent to that of 28 kg of CO₂.

The total CO₂ footprint of Studio Anneloes in 2025 is 5.037 ton CO₂-eq. Scope 1 and 2 contribute less than 1% to the overall carbon footprint of Studio Anneloes, while scope 3 contributes to more than 99% of total emissions.

Within scope 3, the categories 'Purchased goods and services' and 'Upstream transportation' are responsible for nearly 88% and 10% of carbon emissions respectively.

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1 Introduction

1.1 Background research

Studio Anneloes is a women's fashion brand from the Netherlands. All designs are made in the Netherlands, and the production of all items takes place predominantly in and around Europe. The main office of Studio Anneloes is located in Amsterdam, the Netherlands.

This Greenhouse Gas (GHG) report has been carried out by Hedgehog Company B.V. on behalf of Studio Anneloes. It concerns an analysis of the greenhouse gas emissions in scope 1 and 2, and part of scope 3. The relevant emission sources have been determined using the Greenhouse Gas protocol. This report covers the emissions in 2025 and describes the delineation of emission sources, the analysis of the relevant sources, and the final results of the calculation.

1.2 Goal and scope definition

The objective of this analysis is to determine the CO2 footprint of Studio Anneloes in a transparent manner, based on reliable, quantitative environmental data. This study calculates direct and indirect upstream emissions. This report follows the GHG Protocol [1] to improve readability, structure, and comprehension for the readers. The results of this study enable Studio Anneloes to gain insight into the magnitude and composition of their CO2 footprint. The environmental data from the year 2025 serves as a continuation of the annual analysis of the organizational CO2 footprint, started in 2023.

2 Studio Anneloes

2.1 Company description

Studio Anneloes is a Dutch women's fashion brand founded in 2006 in Amsterdam. Studio Anneloes manufactures primarily in and around Europe and is committed to minimise overproduction, monitor carbon and water footprints, adhere to international labour and environmental standards, and maintain transparent, ongoing engagement with suppliers to ensure ethical practices.

2.2 Organisational boundaries

Defining the organisational boundaries is an essential step in analysing an organisational carbon footprint. This step determines which activities fall within the organisational boundaries and are deemed relevant. All inputs and emissions from the relevant activities are calculated in the organisational carbon footprint.

The control approach is used to consolidate greenhouse gas emissions. This means that all emission sources over which Studio Anneloes has direct control and can influence are considered. The calculation considers the in- and outflows of the Dutch office of Studio Anneloes in 2025 for 86 employees.

2.3 Operational boundaries: Greenhouse Gas Protocol Scopes

After defining the organisational boundaries, the operational boundaries can be determined. The operational boundaries define the scope of direct and indirect emissions from activities that fall within the organisational boundaries. The operational boundaries determine the relevant scopes (1, 2 and 3) and categories (see Figure 1 for a schematic representation).

Table 2 summarises the scopes included in this study, as determined by the GHG protocol. These scopes are described in more detail in section 2.4. In consultation with the company in particular, a relevant demarcation has been made of the scopes to be included. The scopes that are not considered in this study are currently not considered relevant given the organisational structure of the Studio Anneloes.

The worst-case scenario approach is used when the input data is incomplete. However, it is an approximation, which means that the real actual emissions may be lower than in the calculation. The approach prevents the actual impact from being underestimated.

2.4 GHG-scopes

The scopes and emission sources from Table 2 are explained in the following paragraphs.

2.4.1 Scope 1 & 2

Scope 1 concerns all direct emissions that take place on and from the facilities of Studio Anneloes. These are emissions that follow from the use of gas and refrigerants. The emissions from company owned vehicles are also included in this scope, as prescribed by the GHG protocol. Thus, the emissions from fuel consumption fall under the direct emissions in scope 1 of Studio Anneloes.

Scope 2 concerns the indirect emissions caused by the purchased electricity and heat. The electricity for the company owned cars also falls under this scope. Specific emission factors are applied, as specific information from energy suppliers was available.

2.4.2 Scope 3, cat. 1 'Purchased goods and services'

Scope 3 emissions are also indirect emissions, as in scope 2. However, scope 3 includes emissions caused by business activities of organizations in the chain. These scope 3 emission sources are not directly owned by Studio Anneloes, but Studio Anneloes can influence them.

The scope 3 category 'Purchased goods and services' contains various products and services purchased by Studio Anneloes in the measurement year. These goods are either non-products (e.g. office supplies and operational equipment) or products (e.g. textile manufacturing). For non-products, the annual expenses for the office is collected. Based on these expenses, specific emission factors are applied per type of expense to calculate the carbon emissions.

Note that the waste generated by the confection partners of Studio Anneloes is also included in this scope. This is because it is not part of the waste generated by Studio Anneloes during operations (scope 3.3), but during one of the procured services that take place for them in different factories.

The calculation of the carbon footprint of purchased goods in scope 3.1 does not consider the transport of these goods, which is included in scope 3.4.

2.4.3 Scope 3, cat. 3 'Fuel and energy related activities'

Scope 3.3 includes the indirect emissions associated with the production and distribution of fuels and energy purchased or consumed by the reporting company, but not directly emitted or used on-site. This typically covers emissions from upstream activities like extraction, refining, and transportation of fuels (e.g., natural gas or electricity). Scope 3.3 helps organizations capture a more complete picture of the carbon footprint related to their energy consumption.

2.4.4 Scope 3, cat. 4 'Upstream transport and distribution'

This category includes indirect GHG emissions related to purchased or acquired goods and services. For Studio Anneloes, upstream emissions include all transportation-related emissions for which the company bears the cost. Data for upstream transportation related to non-products was not available and is not considered in this report.

2.4.5 Scope 3, cat. 5 'Waste generated in operations'

This category includes emissions from the disposal and treatment of waste generated in the reporting company's owned or controlled operations in the reporting year. Studio Anneloes has collected all data regarding their waste streams for all Studio Anneloes facilities, and provided the respective treatment methods. Based on these data, the emissions originating from the treatment of these waste streams are quantified.

2.4.7 Scope 3, cat. 6 'Business travel'

Scope 3, category 6, includes indirect GHG emissions from the transportation of employees for business-related activities in vehicles not owned or operated by the company. This typically covers air travel, rail travel, bus and coach travel, taxi, etc. These emissions occur outside the direct control of the reporting company, but are a consequence of its operations.

2.4.8 Scope 3, cat. 7 'Employee Commuting'

Studio Anneloes provided data on its employees' means of transport, total travel distance to the office and number of working days from the office. This data was used to calculate the total emissions of commuting due to the use of electric and fuel cars, either private or owned by Studio Anneloes, bike and public transport.

Employees that use a company owned car are not represented in this category. Their daily commute is included in either scope 1 or scope 2 emissions for company vehicles, depending on the car being fuel-powered or electric, respectively.

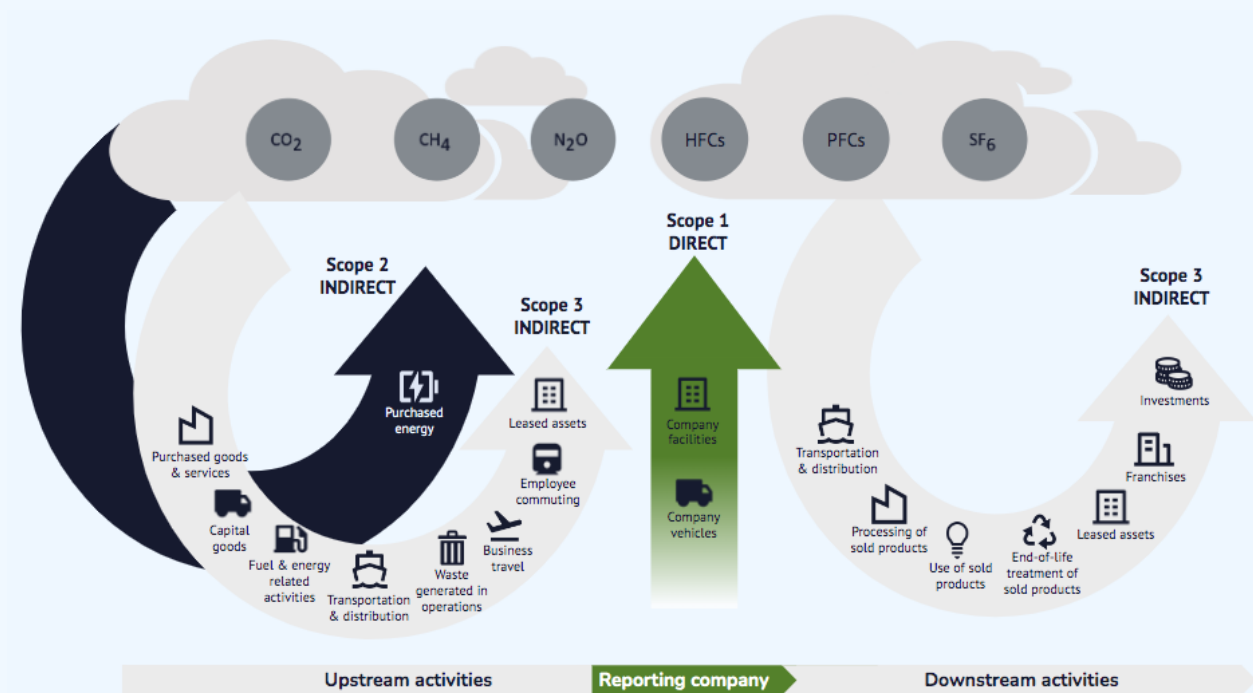


Figure 1. Overview of all categories in scope 1, 2 and 3 according to the GHG protocol.

Table 2. Overview of all scopes and categories included in this report

GHG Scopes	Included
<i>Scope 1 - Direct Emissions</i>	✓
<i>Scope 2 - Indirect Emissions</i>	✓
<i>Scope 3, cat. 1 - Purchased goods and services</i>	✓
<i>Scope 3, cat. 2 - Capital goods</i>	Studio Anneloes does not own any other offices or capital goods. Thus, considered insignificant and excluded from this study.
<i>Scope 3, cat. 3- Fuel- and energy related activities (not included in scope 1 or scope 2)</i>	✓
<i>Scope 3, cat. 4 - Upstream transportation and distribution</i>	✓
<i>Scope 3, cat. 5 - Waste generated in Operations</i>	✓
<i>Scope 3, cat. 6 - Business travel</i>	✓
<i>Scope 3, cat. 7 - Employee commuting</i>	✓
<i>Scope 3, cat. 8 - Upstream leased assets</i>	Studio Anneloes does not own any leased assets, therefore this is not included in this study.
<i>Scope 3, cat. 9 - Downstream transportation and distribution</i>	Studio Anneloes bears all transportation costs, thus there is no downstream transportation
<i>Scope 3, cat. 10 - Processing of sold products</i>	Considered insignificant and excluded from this study
<i>Scope 3, cat. 11 - Use of sold products</i>	Due to limited data availability on how Studio Anneloes's products are used, this is not considered.
<i>Scope 3, cat. 12 - End-of-life treatment of sold products</i>	Due to limited data availability on how Studio Anneloes's products are disposed of, this is not considered.
<i>Scope 3, cat. 13 - Downstream leased assets</i>	Considered insignificant and excluded from this study
<i>Scope 3, cat. 14 - Franchises</i>	Considered insignificant and excluded from this study
<i>Scope 3, cat. 15 - Investments</i>	Considered insignificant and excluded from this study

3 Data and methodology

This section describes the data collection, the databases used and the impact assessment method.

3.1 Data collection

The data collection was carried out by Studio Anneloes by Sustainability Manager Laura Koedijk, and Production & Sustainability coordinator Iris van Trigt. Hedgehog Company supported the data collection. The relevant input data is collected through Studio Anneloes.

When possible, primary data was collected and used. This means that data originates from the specific activity within the value chain of Studio Anneloes. If primary data was not available, literature, desk research and industry averages were used to calculate estimates.

For every category, the exact values and emission sources that are used for the calculation can be found in the Appendix.

3.1.1 Scope 1 & 2

Scope 1 and 2 include the emissions from energy use in the Amsterdam office of Studio Anneloes. Direct emissions from energy use for Scope 1 refers to company fuel-powered vehicles, for which Studio Anneloes has collected the monthly litres of fuel used in 2025. For scope 2, data for electricity use is received through the energy suppliers [2]. The total amount of purchased electricity in 2025 by Studio Anneloes is provided by Vattenfall. Data from van Leeuwen provide insights into the amount of electricity used to recharge electric vehicles at Studio Anneloes' HQ. To avoid double counting, these values are subtracted and broken down into energy purchased from Vattenfall and from van Leeuwen. These emissions are both calculated using the market-based approach. Appendix Table B also provides insights in the location-based approach for these emissions. Moreover, the electric recharge of vehicles other than on-site are also considered, and calculated by subtracting the energy use from van Leeuwen from the energy use declared by Shuttel Solutions to avoid double counting [3].

For both scope 1 and 2, the emissions are calculated by making use of co2emissiefactoren.nl [4].

Although it falls outside of scope 1 and 2, it is important to note that Studio Anneloes owns and produces energy from solar panels. Annual energy production in 2025 reached 105.245 kWh, 26.662 kWh of which are sold back to the energy provider, the rest is self-consumed.

3.1.2 Scope 3, Category 1 'Purchased goods and services'

This scope includes purchased goods (e.g. office supplies, water, Microsoft services), textiles, and haberdashery used for producing the clothing, fabric waste at the production locations, and energy use of the production locations. For the purchased goods within scope 3 'purchased goods and services', an overview of the total weight of the used types of fabric was provided by Studio Anneloes. They also provided the cost of office supplies, direct emissions from the use of Microsoft and the amount of water used in 2025 from the supplier.

For Non-Travel fabrics, textile-specific emission factors were provided by CE Delft [5]. For Travel fabrics, a hybrid approach was taken: product-specific Environmental Product Declarations (EPDs) were used where available. These values are the same as in 2024, as there's no update of these EPDs. For other travel fabrics, an average of the calculated travel fabric EPDs was applied to ensure consistency.

For other purchased goods, a combination of databases was consulted:

- Ecoinvent v3.11 Database [6]: This activity-based environmental database was the primary source for modeling a significant portion of emissions in this category. Ecoinvent contains detailed environmental profiles for various processes and activities, including material production and industrial processes, covering metrics like extracted raw materials and emissions to water, air, and soil. It requires input data based on weight.

- UK DEFRA GHG Database [7]: For specific inputs like natural gas and textile waste, the UK DEFRA GHG database was used.
- Exiobase [8]: Used when the weight of an input was unavailable, but monetary values were known. This database, built on supply-use data per industry across different regions, uses Multi-Regional Environmentally Extended Supply-Use (MR-EESU) and Environmentally Extended Input-Output (EEIO) data. This allows to link environmental data to the monetary consumption (€) of a product, proving particularly useful for purchased goods where only financial data is accessible.

Studio Anneloes also procures a confectioning service from contractors in Poland, as part of producing ready to wear clothing. Studio Anneloes has collected specific energy consumption data from their contractors. By applying an emission factor for the local grid [9], the emissions of this service are calculated. The purchased goods and services category considers all procurement activities of Studio Anneloes. The energy consumption of these facilities is also considered within this scope, as they are a purchased service.

Note that Bfield did not provide data for shoulderpads, which are thus not included in this study. Also, data for interlining, such as the material and the weight per square metre, was estimated based on literature [11].

3.1.3 Scope 3, Category 4 'Upstream transportation and distribution'

For scope 3 'Upstream transportation and distribution', Studio Anneloes has provided the litres of diesel consumed for some routes. For other routes they provided the origin and destination locations, travelled kilometres, transportation modes and shipments' weights, including packaging. This allows us to calculate the ton kilometres. Emissions are calculated by using the emission factors from CO₂ emissiefactoren [4].

When addresses or distances were incomplete or not provided, the centre of population was used to calculate distances, see Figure 2. Part of the route by boat has been added when necessary, although was not declared as a means of transport. This specifically applies to the routes from Morocco to Studio Anneloes, and from Turkey to Tunisia.



Figure 2. Centre population for each country in Europe from Vivid Maps [10].

3.1.4 Scope 3, Category 5 'Waste generated in operations'

For waste generated in operations, Studio Anneloes provided an overview of weights from the waste handler and related waste treatment. The waste streams are: paper and carton, plastic, residual waste, glass, PD (beverage cartons) and swill. The emissions of this category are calculated by multiplying each waste streams' weights to the emission factor of the related waste treatment. In 2024 the emission factors were retrieved from UK Government GHG Conversion Factors for Company Reporting [7], however, for 2025 emission factors from CO₂ emissiefactoren are selected [4]. These emission factors are deemed more accurate as they refer to the Netherlands.

3.1.5 Scope 3, Category 6 'Business travel'

Business travel includes fossil-fuelled cars and cars with unknown fuel composition, international train travels, and short-haul, medium-haul, and long-haul flights. Studio Anneloes has provided data on the departure and arrival locations, and the number of people travelling. By choosing the related emission factors from CO₂emissiefactoren [4] the emissions are calculated.

When calculating emissions for cars, the 'per vehicle-kilometer' factor was used, assuming multiple passengers per car. For all other forms of transport, the emission factors were based on 'per passenger-kilometer.'

3.1.6 Scope 3, Category 7 'Employee commuting'

Studio Anneloes has provided data on the commuting habits of their employees. By considering the total travel distance, the amount of days working from the office, and the amount of working weeks (estimated 47 in 2025: 52 in the year minus 5 weeks of holidays), total transport is calculated. This is multiplied with the emission factor for the used transport mode from CO₂ emissiefactoren [4]. For train transport, the distance travelled was assumed equal to the road distance.

Employee commuting with company-owned cars are excluded from this calculation, as they're already included in scope 1 and 2. Moreover, people hired from an agency but commuting to Studio Anneloes are also considered.

3.3 Impact Assessment Method

The impact assessment method translates the inputs into environmental impact. Most databases use the Intergovernmental Panel on Climate Change Sixth Assessment Report (IPCC AR6) for the CO₂-emission factors. The emission data from Exiobase has been analysed with the CML 2001, baseline method.

4 Results

This chapter presents the results of the organizational carbon footprint analysis of 2025. The results of this year serve as a baseline measurement for subsequent years.

The results are given in tonnes of CO₂ equivalents. CO₂ equivalents are used to express the contribution of greenhouse gases to global warming, in a single unit. This unit therefore expresses the contribution of the greenhouse gas, in the effect per kilogram of CO₂. For example, the emission of one kilogram of methane is equivalent to the emission of 28 kg of CO₂. In other words, one kilogram of methane contributes to global warming in the same way as 28 kilograms of CO₂. The effect per kilogram of greenhouse gas can vary greatly. For example, the effect of one kilogram of refrigerant with the number R407c is equivalent to the effect of 1,624 kg of CO₂.

4.1 Overview

Table 3 provides an overview of the results. The table shows the total CO₂ impact per scope and category in tonnes of CO₂ equivalents and the share of the total impact. Figure 3 visualizes the data from table 3.

Results indicate that the largest part (>99%) of the impact is caused by scope 3. Scope 1 and 2 contribute less than 1% to the total impact.

Table 3. Scopes and impact categories.

GHG scopes	Total CO ₂ -impact (ton CO ₂ -eq.)	Contribution (%)
Scope 1 - Direct emissions	2	<1%
Scope 2 - Indirect emissions	9	<1%
Scope 3 - Indirect emissions (total)	5.026	>99%
Scope 3, cat. 1 'Purchased goods and services'	4.408	88%
Scope 3, cat. 3 'Fuel and energy related activities'	3	0%
Scope 3, cat. 4 'Upstream transport and distribution'	494	10%
Scope 3, cat. 5 'Waste generated in operations'	0	0%
Scope 3, cat. 6 'Business travel'	23	0%
Scope 3, cat. 7 'Employee commuting'	98	2%
Total	5.037	100%

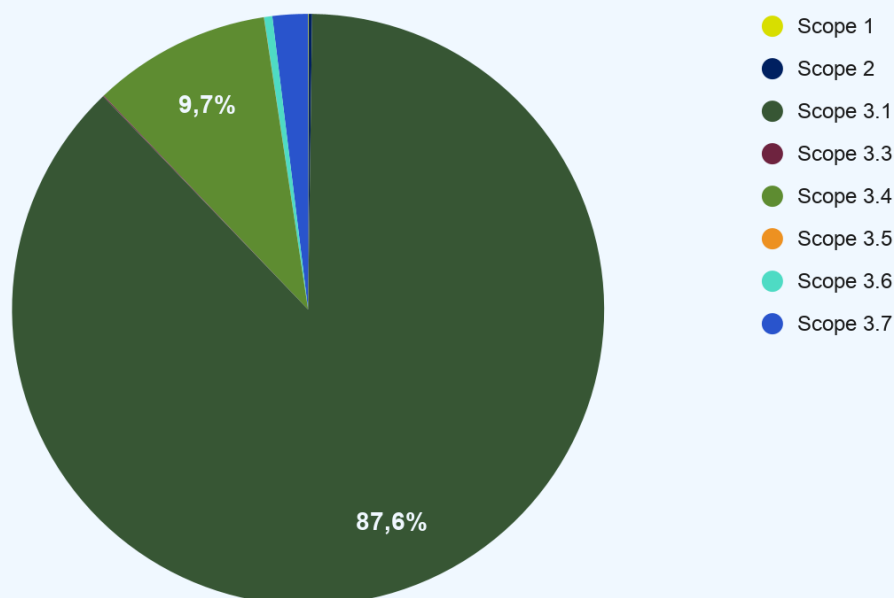


Figure 3. Impact per scope and/or category, expressed in percentage of total GHG emissions (scope 1, 2 and 3).

4.2 Scope 1 - Direct emissions

The direct emissions in scope 1 come from fuel consumption by non-electric company vehicles. Table 4 shows that company vehicles powered by diesel contribute 2 tonnes of CO₂-eq to the total scope 1 emissions.

Table 4. Sources of emission in scope 1

Emission sources	Unit	Amount	Total CO ₂ -impact (ton CO ₂ -eq.)
Company vehicle - diesel	litre	723	2
Total scope 1	-	-	2

4.3 Scope 2 - Indirect emissions

Scope 2 includes all indirect emissions from purchased energy sources, such as electricity used in the office. It also covers electricity used by electric company vehicles recharged at the HQ and elsewhere (electric business cars), see table 5.

The Studio Anneloes facility uses a heat pump for both heating and cooling. While the heat pump contains refrigerants, it operates within a closed system. In 2025, the system underwent maintenance, however documentation provided by Studio Anneloes does not indicate data on refilling, so it is assumed that no refilling was needed and therefore no emissions are allocated.

Emissions from electricity are calculated using the market-based method, as specific energy supplier data is used. The office uses a mix of purchased wind energy and self-generated electricity from photovoltaic panels (which is outside of scope 2), thus the carbon impact of electricity use is considered zero. Moreover, it is worth noting that the use of solar panels contributes to lower Studio Anneloes' dependency on fossil sources.

Table 5. Sources of emission in scope 2

Emission sources	Unit	Amount	Total CO2-impact (ton CO2-eq.)
Electricity - wind	kWh	161.169	0
Electric company vehicles	kWh	41.621	0
Electricity mix for business cars	kWh	41.931	9
Total scope 2	-	-	9

4.4 Scope 3 - indirect emissions

The emissions in scope 3 amounts to 5.026 ton CO2-eq, corresponding to 99.8% of the total CO2 footprint. Within scope 3, emissions are produced mainly in the category 'Purchased goods and services', followed by the category 'Upstream transport and distribution'.

4.4.1 Scope 3, cat. 1 'Purchased goods and services'

This category contributes to 88% of the total emission of Studio Anneloes, being responsible for the emission of 5.026 ton CO2-eq. Table 6 and Figure 4 show that, within this category, the textiles contribute the most to the emissions (85%), followed by waste (10%). Both impacts can be explained by the high purchase of fabric. Figure 4 also shows that overall, textiles contribute to 85% (considering travel textiles and other textiles) and cutting waste to 10% of the total emissions for this category.

Table 6. Sources of emissions in scope 3, category 1 'Purchased goods and services'.

Sources of emission	Unit	Amount	Total ton CO2-eq
<i>Packaging</i>			
Etiquettes	kg	1.466	2
Shipping boxes	kg	29.447	30
Plastic garment bags	kg	3.953	14
Paper bag	kg	6.176	6
<i>Textiles</i>			
Acrylic	kg	1.125	12
Wool	kg	2.034	119
Cotton	kg	13.150	203
Recycled cotton	kg	299	3
Linen	kg	237	3
Polyamide	kg	13.047	248
Polyester	kg	13.043	157
Recycled polyester	kg	909	8
Viscose	kg	18.911	216
Leather	kg	73	<1
Lurex	kg	0,07	<1

Cashmere	kg	35	2
Elastane	kg	1.265	17
Mohair	kg	1.576	93
Modal	kg	52	1
Recycled PET	kg	6	<1
Lyocell	kg	1.374	15
Alpaca	kg	533	31
Metallic yarn	kg	970	10
Recycled polyamide	kg	1.991	38
Other fibres	kg	16	<1
Silk	kg	6	1
Travel fabric - recycled polyamide content	kg	47.799	652
Travel fabric - other	kg	142.986	1.659
Polyurethane	kg	1.011	14
Acetate	kg	75	1
<i>Other purchased goods and services</i>			
Post & office	euro's	17.447	3
Labels woven - recycled polyester	kg	303	1
Hangtags - paper	kg	6.389	16
Plastic hangers	kg	1.083	5
Wooden hangers	m3	5	1
Paper and cards	kg	467	1
Tote bags	kg	3.914	60
Metal card holders	kg	70	<1
Metal sleeve holders	kg	165	1
Cord	kg	97	1
Pens	kg	19	<1
Polyester bags and keycord	kg	1.226	7
Sunglasses	kg	21	<1
Sunglasses cases	kg	42	<1
Power BI	-	-	<1
Water	kg	398.000	<1
<i>Haberdashery</i>			
Elastic	kg	7.014	97
Interlining	kg	12.450	77

Interlining GRS		8.391	52
Metal buttons	kg	404	2
Metal plate	kg	27	<1
Polyester buttons	kg	1.819	12
Pin - metal	kg	1	<1
Elastic, ribbons & cord (Vostex) - metal parts	kg	4	<1
Elastic, ribbons & cord (Vostex) - polyester parts	kg	787	5
Elastic, ribbons & cord (Vostex) - elasthan parts	kg	53	1
<i>Confectioning</i>			
Electricity	kWh	126.958	78
Gas	m3	2.009	4
<i>Waste</i>			
Cutting waste (waste treatment)	kg	33.800	0
Cutting waste (textile mix)	kg	33.800	428
Total scope 3.1	-	-	4.408

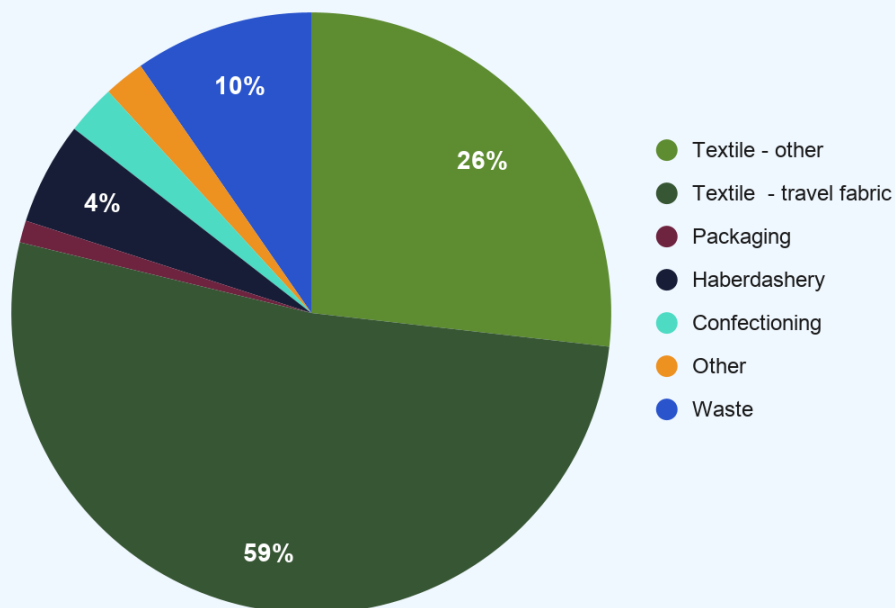


Figure 4. Emission sources of purchased goods and services.

4.4.3 Scope 3, cat. 3 'Fuel and energy related activities'

Table 7 shows the emissions of the upstream production of the energy consumed by Studio Anneloes (and reported in scope 1 and 2). The contribution of this category to the total emissions of Studio Anneloes is low.

Table 7. Sources of emissions in scope 3, category 3 'Fuel and energy related activities'.

Emission sources	Unit	Amount	Total CO ₂ -impact (ton CO ₂ -eq.)
Company vehicle - diesel	litre	723	1
Electricity - wind	kWh	161.169	0
Electric company vehicles	kWh	41.621	0
Electricity mix for business cars	kWh	41.931	2
Total scope 3.3	-	-	3

4.4.4 Scope 3, cat. 4 'Upstream transport and distribution'

The category 'Upstream transportation & distribution' contributes 10% to scope 3 emissions. Table 8 gives an overview of all individual means of freight transport in 2025 and related carbon emissions. Figure 5 highlights that both air transport and outsourced truck transportation each produce around 30% of the emissions in this category. The third-largest contributor to this category is transport via diesel-fuelled trucks, with almost 21% of the emissions, followed by truck transport with unknown fuel which produces almost 14% of the emissions. Between 2024 and 2025, emissions lowered by 16%.

It can also be noted that emissions by aeroplane in 2025 are considerably lower than in 2024: 137 ton CO₂-eq in 2025 versus 380 ton CO₂-eq in 2024, equal to a 64% decrease. It is worth mentioning that in 2024, a large part of the emissions from aeroplane transport were derived from provided emission data from the route Shanghai-Rotterdam, and emission data provided couldn't be verified.

Table 8. Emissions sources in scope 3, category 4 'Upstream transportation & distribution'.

Emission sources	Unit	Amount	Total CO ₂ -impact (ton CO ₂ -eq.)
Airplane	tkm	249.928	137
Truck - unknown fuel	tkm	79.581	67
Truck - diesel	litres	31.170	101
Own truck - diesel	litres	10.266	33
Outsourced truck - diesel	litres	46.170	150
Car - petrol	litres	19	<1
Ship - within Europe	tkm	3	<1
Ship - intercontinental	tkm	364.694	4
Train - intercontinental	tkm	11.990	<1
Total scope 3.4	-	-	494

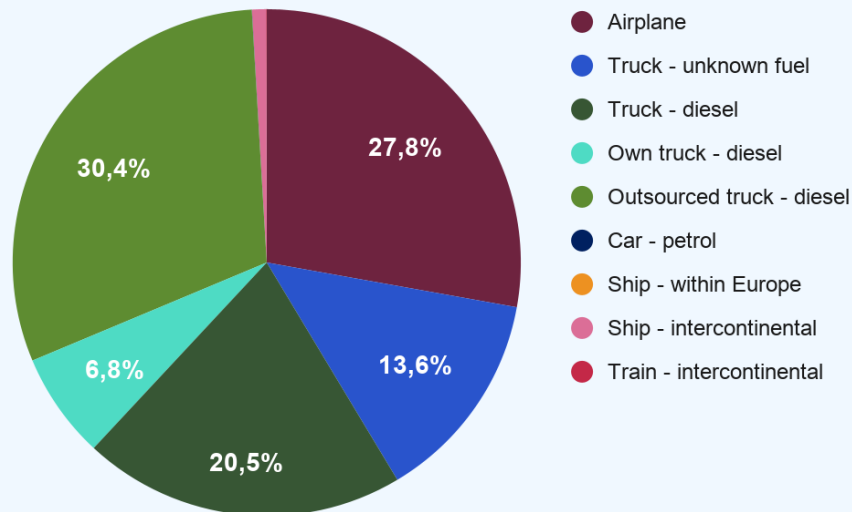


Figure 5. Emission sources of Upstream transport and distribution.

4.4.5 Scope 3, cat. 5 'Waste generated in operations'

Table 9 presents an overview of all waste streams and their respective GHG emissions. The contribution of this category to the total emissions of Studio Anneloes is negligible.

Table 9. Emissions sources in scope 3, category 5 'Waste generated in operations'.

Emission sources	Unit	Amount	Total CO ₂ -impact (ton CO ₂ -eq.)
Paper and carton	kg	13000	<1
Plastic	kg	1980	<1
Residual waste	kg	2310	<1
Glass	kg	550	<1
Beverage cartons	kg	1243	<1
Swill	kg	2750	<1
Total scope 3.5	-	-	<1

4.4.6 Scope 3, cat. 6 'Business travel'

For business travel, the main contributor to total category 6 emissions is aeroplane travel, with almost 77% of the emissions for business travel stemming from medium haul European flights. Overall, the flights emit 23 tons of CO₂-eq, contributing less than 1% of the total emissions for Studio Anneloes. Table 10 and figure 6 break down the contributions of each means of transport to carbon emissions. The emissions for this category are 36% less than in 2024. This is mostly due to the drastic reduction of intercontinental travels via aeroplane (94.944 pkm in 2024).

Table 10. Emissions sources in scope 3, category 6 'Business travel' (pkm = passenger*kilometre, vkm = vehicle*kilometre).

Emission sources	Unit	Amount	Emission factor	Total CO ₂ -impact (ton CO ₂ -eq.)
Car - benzine	vkm	1.674	0,20	<1
Car - unknown	vkm	1.162	0,19	<1

Train - international	pkm	1.477	0,01	<1
Flight - regional <700km	pkm	14.850	0,23	3
Flight - European 700 - 2.500 km	pkm	101.899	0,17	18
Flight - Intercontinental > 2.500 km	pkm	8.262	0,16	1
Total scope 3.6	-	-	-	23

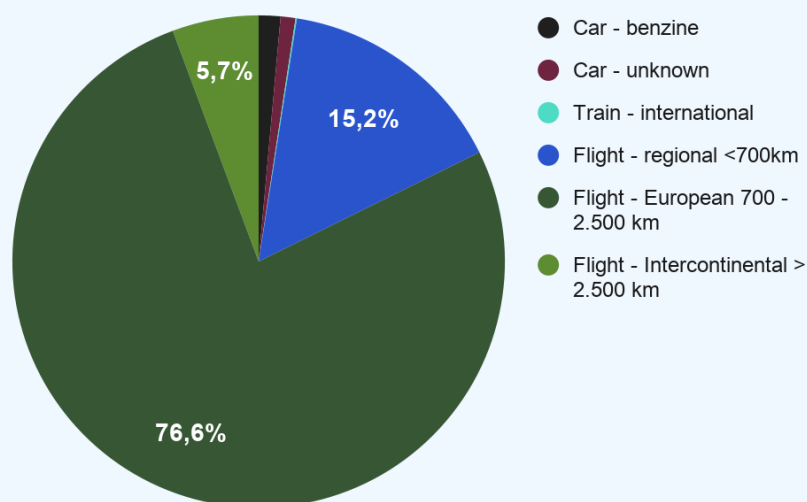


Figure 6. Emissions in scope 3, category 'Business travel'

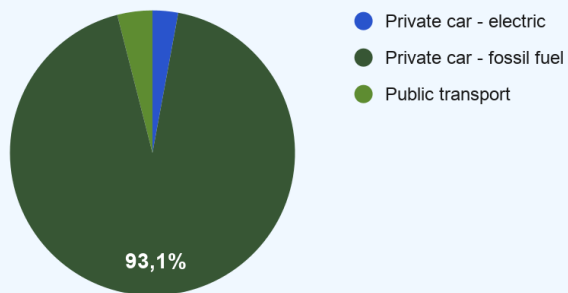
4.4.7 Scope 3, cat. 7 'Employee Commuting'

With 98 ton CO₂-eq., employee commuting contributes 2% to Studio Anneloes's total carbon footprint. The impact within this category is primarily caused by the fossil-fuelled cars used by the employees to commute to the Studio Anneloes offices. Table 11 gives an overview of all individual means of transport and related carbon emissions. These are also visualized in Figure 7, together with the distances travelled in 2025 per each means of transport. Overall, distances travelled by car (both electric and fossil-fuelled) and public transport have increased compared to 2024.

Table 11. Emissions sources in scope 3, category 7 'Employee commuting'.

Emission sources	Unit	Amount	Total CO ₂ -impact (ton CO ₂ -eq.)
Private car - electric	pkm	45.883	3
Private car - fossil fuel	pkm	468.062	91
Bike	pkm	38.173	0
Public transport	pkm	278.722	4
Total scope 3.7	-	-	98

GHG impact emissions



Distance travelled (pkm)

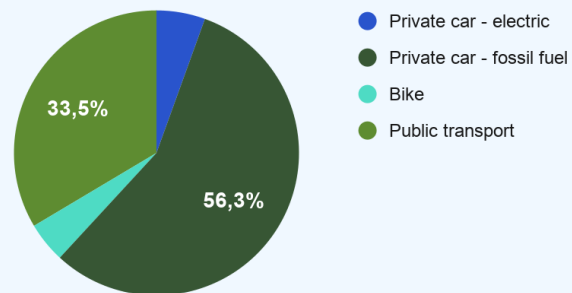


Figure 7. Emissions from scope 3, category 'Employee Commuting'

5 Conclusion

In 2025, Studio Anneloes's total carbon footprint amounted to 5.037 tonnes of CO₂-equivalent. Over 99% of these emissions fall under scope 3 (indirect emissions), driven by the manufacturing and transportation of purchased goods, particularly textiles used in clothing production. Scope 1 and Scope 2 emissions each accounted for less than 1% of total emissions, reflecting low direct and purchased electricity-related impacts.

6 Comparison with carbon emissions in 2024

In 2025, Studio Anneloes implemented a significant methodology change for calculating item weights, which directly influenced the raw material mass reported in Section 4.4.1 (Scope 3, Category 1: Purchased Goods and Services). While the 2024 analysis used estimated averages based on broad product categories, the 2025 assessment used primary data from the individual weighing of the items. This shift reduced reliance on category-level assumptions, providing a more accurate representation of the actual material footprint.

The average weight per item recorded in 2025 was 0.36 kg, representing an increase from the 0.34 kg calculated in 2024. Although specific item weights reviewed during the assessment were sometimes lower than their 2024 counterparts, the overall weighted average for 2025 was slightly higher, a trend that aligns with the textile declarations for both years. These results are considered more accurate than previous reports due to this enhanced data quality.

Apart from methodology changes, variations in results compared to 2024 are attributed to reduction actions and improved data accuracy across other categories. Most notably, there was a substantial decrease in intercontinental air travel, which contributed to a 64% reduction in emissions from aeroplane freight transport, falling from 380 ton CO₂-eq in 2024 to 137 ton CO₂-eq in 2025. Total scope 3 decreased by 8% in 2025, as well as total emissions, which decreased from 5.492 ton CO₂-eq in 2024 to 5.037 ton CO₂-eq in 2025.

7 Reduction steps

In 2025, Studio Anneloes shows lower emissions than in 2024. This is due to both reduction actions, for instance the drastic reduction of international flights, and improved data quality. Studio Anneloes continues to utilize self-generated energy from solar panels and purchased wind energy. But to further lower its carbon footprint, the company should focus on Scope 3, which contributes more than 99% of the company emissions.

Purchased goods and services cause 88% of total emissions. Within this category, textiles contribute 85% of this category's emissions. Strategies to lower the impact of textiles could be:

- Identify high-impact fabrics (e.g., Travel fabric, Polyamide, Viscose, Cotton, Wool, Mohair) and actively source lower-impact alternatives, such as certified organic, recycled, or other innovative materials.
- Address the 10% contribution from cutting waste to this impact category. This could be done by implementing design and production processes that optimize fabric utilization or re-use, and minimize cutting waste generated by confection partners.

Although emissions from Upstream transportation and distribution have already decreased by 16% from 2024 to 2025, this category still accounts for 10% of the total footprint. Air freight and outsourced diesel truck transport are the main emissions sources.

- Studio Anneloes should continue its effort to reduce air freight, which saw a 64% decrease from 2024, prioritizing sea, rail, or combined transport for long-distance routes.
- For road transport, Studio Anneloes could collaborate with outsourced transport partners to transition to lower-emission vehicles (e.g. electric powered).

Lastly, Employee commuting contributes 2% to the total emissions, mainly due to private fossil-fuelled cars. Studio Anneloes could reduce this impact by increasing incentives for employees to use public transport and cycling, or promote the switch to electric private vehicles.

8 References

- [1] Greenhouse Gas Protocol. A Corporate Accounting and Reporting Standard. Revised Edition.
- [2] Vattenfall. Energy supplier data 2025.
- [3] Shuttel Solutions. Data supplier for electric car recharge, 2025.
- [4] Lijst emissionfactoren, 2025. CO2 emissionfactoren. <https://co2emissiefactoren.nl/>
- [5] CE Delft. (2018). Milieuinformatie Textiel. Update 2018. Retrieved from https://ce.nl/wp-content/uploads/2021/03/CE_Delft_2F453_Milieuinformatie_Textiel_Update_2018_DEF.pdf
- [6] Ecoinvent v3.11 Database, 2025. <https://ecoquery.ecoinvent.org/3.11/cutoff>
- [7] UK DEFRA GHG Database, 2025. <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023>
- [8] Exiobase database, 2025. <https://doi.org/10.1111/jiec.12715>
- [9] Nowtricity, 2025. <https://www.nowtricity.com/country/poland>
- [10] Vividmaps, 2025. Image retrieved from <https://vividmaps.com/wp-content/uploads/2020/10/Center-population.png>
- [11] Flatsome build. (2025, July 21). Fiberfill - big in fabric. Big in Fabric. https://www.big-in-fabric.nl/product/fiberfill/?attribute_pa_product-type=100-gr-m2&qad_source=1&qad_campaignid=22226461119&gbraid=0AAAAACpMEw9NWY1jRjI-LYWR-ytYRL7Ag&qclid=CjwKCAjwidXQBhAZEiwA4egw6Ly2rumpT4sw-9L6kaK206OwjROfewgl0tpRrDZdqRWFGTV3m02JwxoCMiEOAvD_BwE

9 Appendix

In this Appendix, the applied emission factors are presented. In all tables in the Appendix, databases are abbreviated in the following way: CO2 emissiefactoren.nl = CEF, the UK GHG conversion factors 2022 = UK GHG, Exiobase Hybrid 2017 = EX, and the European Environmental Agency = EEA, Milieuinformatie textiel = MIT.

Table A. Scope 1 emissions 2025

Source	Amount	Unit	Emission factor (kg CO ₂ -eq/unit)	Database	Tonnes CO ₂ -eq
Company vehicles - diesel	723	litre	2,46	CEF	2

Table B1. Scope 2 emissions 2025 (market-based approach).

Source	Amount	Unit	Emission factor (kg CO ₂ -eq/unit)	Database	Tonnes CO ₂ -eq
Electricity - wind	161.169	kWh	0	Supplier specific data	0
Electric company vehicles	41.621	kWh	0	Supplier specific data	0
Electricity mix for business cars	41.931	kWh	0,22	CEF	9

Table B2. Scope 2 emissions 2025 (location-based approach).

Source	Amount	Unit	Emission factor (kg CO ₂ -eq/unit)	Database	Tonnes CO ₂ -eq
Electricity mix for business cars	41.931	kWh	0,22	CEF	9
<i>Electricity - wind</i> Location-based approach	161.169	kWh	0,22	CEF	35
<i>Electric company vehicles</i> Location-based approach	41.621	kWh	0,22	CEF	9

Table C. Scope 3 emissions - Purchased goods and services 2025

Source	Amount	Unit	Emission factor (kg CO ₂ -eq/unit)	Database	Tonnes CO ₂ -eq
<i>Packaging</i>					
Etiquettes	1.466	kg	1,31	Ecoinvent 3.11	2
Shipping boxes	29.447	kg	1,02	Ecoinvent 3.11	30
Plastic garment bags	3.953	kg	3,60	Ecoinvent 3.11	14
Paper bag	6.176	kg	1,04	Ecoinvent 3.11	6
<i>Textiles</i>					
Acrylic	1.125	kg	10,70	MIT	12
Wool	2.034	kg	58,70	MIT	119
Cotton	13.150	kg	15,40	MIT	203
Recycled cotton	299	kg	9,90	MIT	3
Linen	237	kg	11,00	MIT	3
Polyamide	13.047	kg	19,00	MIT	248
Polyester	13.043	kg	12,00	MIT	157
Recycled polyester	909	kg	8,90	MIT	8
Viscose	18.911	kg	11,40	MIT	216
Leather	73	kg	6,50	MIT	<1
Lurex	0	kg	10,70	MIT	<1
Cashmere	35	kg	58,70	MIT	2
Elastane	1.265	kg	13,80	MIT	17
Mohair	1.576	kg	58,70	MIT	93
Modal	52	kg	10,70	MIT	1
Recycled PET	6	kg	8,90	MIT	<1
Lyocell	1.374	kg	10,70	MIT	15
Alpaca	533	kg	58,70	MIT	31
Metallic yarn	970	kg	10,70	MIT	10
Recycled polyamide	1.991	kg	19,00	MIT	38
Other fibres	16	kg	19,00	MIT	<1
Silk	6	kg	81,00	MIT	1

Travel fabric - recycled polyamide content	47.799	kg	-	Product-specific impacts	652
Travel fabric	142.986	kg	-	Product-specific impacts	1.659
Polyurethane	1.011	kg	13,80	MIT	14
Acetate	75	kg	13,80	MIT	1
<i>Other purchased goods and services</i>					
Post & office	17.447	euro's	0,19	EX	3
Labels woven - recycled polyester	303	kg	4,00	Ecoinvent 3.10	1
Hangtags - paper	6.389	kg	2,53	Ecoinvent 3.11	16
Plastic hangers	1.083	kg	4,29	Ecoinvent 3.11	5
Wooden hangers	5	m3	95,50	Ecoinvent 3.11	1
Paper and cards	467	kg	2,53	Ecoinvent 3.11	1
Tote bags	3.914	kg	15,40	MIT	60
Metal card holders	70	kg	4,93	Ecoinvent 3.11	<1
Metal sleeve holders	165	kg	4,50	Ecoinvent 3.11	1
Cord	97	kg	10,43	Ecoinvent 3.11	1
Pens	19	kg	4,29	Ecoinvent 3.11	<1
Polyester bags and keycord	1.226	kg	5,73	Ecoinvent 3.11	7
Sunglasses	21	kg	6,16	Ecoinvent 3.11	<1
Sunglasses cases	42	kg	6,05	Ecoinvent 3.11	<1
Power BI	-	-	-	Supplier-specific emissions	<1
Water	398.000	kg	0,0003	Ecoinvent 3.11	<1
<i>Haberdashery</i>					
Elastic	7.014	kg	13,80	MIT	97
Interlining	12.450	kg	6,20	Ecoinvent 3.11	52
Interlining GRS	8.391	kg	6,20	Ecoinvent 3.11	2
Metal buttons	404	kg	5,82	Ecoinvent 3.11	2
Metal plate	27	kg	5,82	Ecoinvent 3.11	<1
Polyester buttons	1.819	kg	6,44	Ecoinvent 3.11	12

Pin - metal	1	kg	5,82	Ecoinvent 3.11	<1
Elastic, ribbons & cord (Vostex) - metal parts	4	kg	5,82	Ecoinvent 3.11	<1
Elastic, ribbons & cord (Vostex) - polyester parts	787	kg	6,20	Ecoinvent 3.11	5
Elastic, ribbons & cord (Vostex) - elastan parts	53	kg	13,80	MIT	1
<i>Confectioning</i>					
Electricity	126.958	kWh	0,62	Nowtricity	78
Gas	2.009	m3	2,07	UK GHG	4
<i>Waste</i>					
Cutting waste (waste treatment)	33.800	kg	0,005	UK GHG	<1
Cutting waste (textile mix)	33.800	kg	12,67	MIT	428

Table D. Scope 3 emissions - Fuel and energy related activities 2025

Sources	Amount	Unit	Emission factor (kg CO2-eq/unit)	Database	Tonnes CO2-eq
Company vehicle - diesel	723	litre	0,79	CEF	1
Electricity - wind	161.169	kWh	0,00	CEF	0
Electric company vehicles	41.621	kWh	0,00	CEF	0
Electricity mix for business cars	41.931	kWh	0,05	CEF	2

Table E. Scope 3 emissions - Upstream transportation 2025

Source	Amount	Unit	Emission factor (kg CO2-eq/unit)	Database	Tonnes CO2-eq
Airplane	249.928	tkm	0,55	CEF	137
Truck - unknown fuel	79.581	tkm	0,26	CEF	67
Truck - diesel	31.170	litres	3,25	CEF	101
Own truck - diesel	10.266	litres	3,25	CEF	33

Outsourced truck - diesel	46.170	litres	3,25	CEF	150
Car - petrol	19	litres	2,80	CEF	<1
Ship - within Europe	3	tkm	0,01	CEF	<1
Ship - intercontinental	364.694	tkm	0,01	CEF	4
Train - intercontinental	11.990	tkm	0,02	CEF	<1

Table F. Scope 3 emissions - Waste generated 2025

Source	Amount	Unit	Emission factor (kg CO ₂ -eq/unit)	Database	Tonnes CO ₂ -eq
Paper and carton	13.000	kg	0,01	CEF	<1
Plastic	1.980	kg	0,05	CEF	<1
Residual waste	2.310	kg	0,04	CEF	<1
Glass	550	kg	0,03	CEF	<1
Beverage cartons	1.243	kg	0,05	CEF	<1
Swill	2.750	kg	0,01	CEF	<1

Table G. Scope 3 emissions - Business travel 2025

Source	Amount	Unit	Emission factor (kg CO ₂ -eq/unit)	Database	Tonnes CO ₂ -eq
Car - benzine	1.674	vkm	0,20	CEF	<1
Car - unknown	1.162	vkm	0,19	CEF	<1
Train - international	1.477	pkm	0,01	CEF	<1
Flight - regional <700km	14.850	pkm	0,23	CEF	3
Flight - European 700 - 2.500 km	101.899	pkm	0,17	CEF	18
Flight - Intercontinental > 2.500 km	8.262	pkm	0,16	CEF	1

Table H. Scope 3 emissions - Employee commuting 2025

Source	Amount	Unit	Emission factor (kg CO2-eq/unit)	Database	Tonnes CO2-eq
Private car - Electric	45.883	pkm	0,06	CEF	3
Private car -fossil fuel	430.333	pkm	0,20	CEF	84
Bike	38.173	pkm	0,00	CEF	0
Public transport	278.722	pkm	0,01	CEF	4