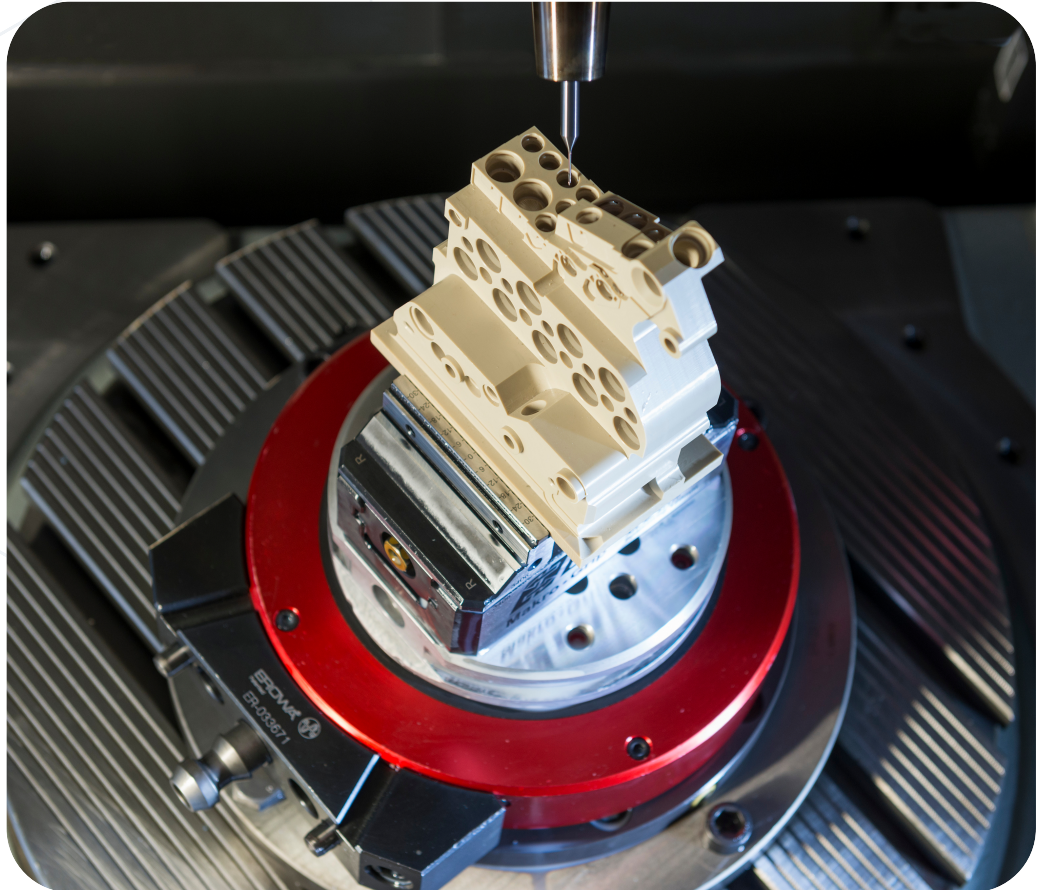




Carbon Footprint Report 2022



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Introduction

BKB Precision is the plastics machining company for the high-tech industry. With a diverse range of materials, including high-performance plastics, engineering plastics, and foam materials, BKB serves multiple high-tech market segments. These encompass the semiconductor, medical, defense, aerospace, food, and chemical industries. Our specialty lies in the precise fabrication of plastic manifolds and the processing of PEEK plastic.

BKB Precision is located at the Science Park Eindhoven in Son, The Netherlands. With a workforce comprising of 65 workers, BKB operates across various departments, such as production, sales, finance and human resources.

Sustainability is pivotal to us. We aim to run our business in a socially responsible matter, and reducing our impact on the environment is important to us. The goal of this carbon footprint report is to gain an understanding of the sources of our carbon emissions, and develop reduction measures.

Method

The carbon footprint measurements in this study follow the guidelines outlined by the Greenhouse Gas (GHG) Protocol. BKB Precision is the reporting organization, and no other organizations are included in this assessment. The greenhouse gases emissions are reported as an equivalent to carbon. The calculations were calculated using market-based emissions and location-based emissions. No external audit has been conducted.

This is the first carbon footprint report and 2022 will serve as a baseline year. The most significant emission categories have been identified within scope 1, scope 2, and scope 3, taking into account our business model. Table 1 provides an overview of the included and excluded emission categories.

	Scope 3 Upstream <i>Indirect</i>	Scope 2 <i>Indirect</i>	Scope 1 <i>Direct</i>	Scope 3 Downstream <i>Indirect</i>
Included	Purchased goods & services	Purchased electricity	Fugitive emissions	Downstream transportation activities
Excluded	Business travel	Purchased heat	Stationary combustion	Leased assets*
	Waste generation		Mobile combustion	Processing of sold intermediates*
	Capital goods			Waste of sold products*
	Upstream transportation activities*			Leased assets
	Fuel & energy-related emissions			Franchise locations

Table 1: Overview of emission categories



Capital goods, upstream transportation activities, and usage categories (marked with an asterisk) were excluded from the analysis due to limited data availability or unreliable conversion factors. Due to the lack of available data in scope 3, the categories of purchased plastics, waste generation, and downstream transportation services were partially calculated.

Carbon emissions

In 2022, our organizational footprint was 748,090 tCO2e. Table 2 displays the divisions with their respective scopes, and BKB Precision has the highest footprint in our scope 3. We anticipate that this category will continue to increase in the future, as we were unable to account all emissions of all scope 3 categories.

Figure 1 and Table 3 show the emissions per category. Most of the emissions fall within the purchased plastics, followed by employee commuting, downstream transportation activities and purchased electricity.

Scopes

Scope 1 Emissions	50,82 tCO2e
Scope 2 Emissions	69,38 tCO2e
Scope 3 Emissions	627,89 tCO2e
Total Emissions	748,09 tCO2e

Table 2: Total emissions per scope

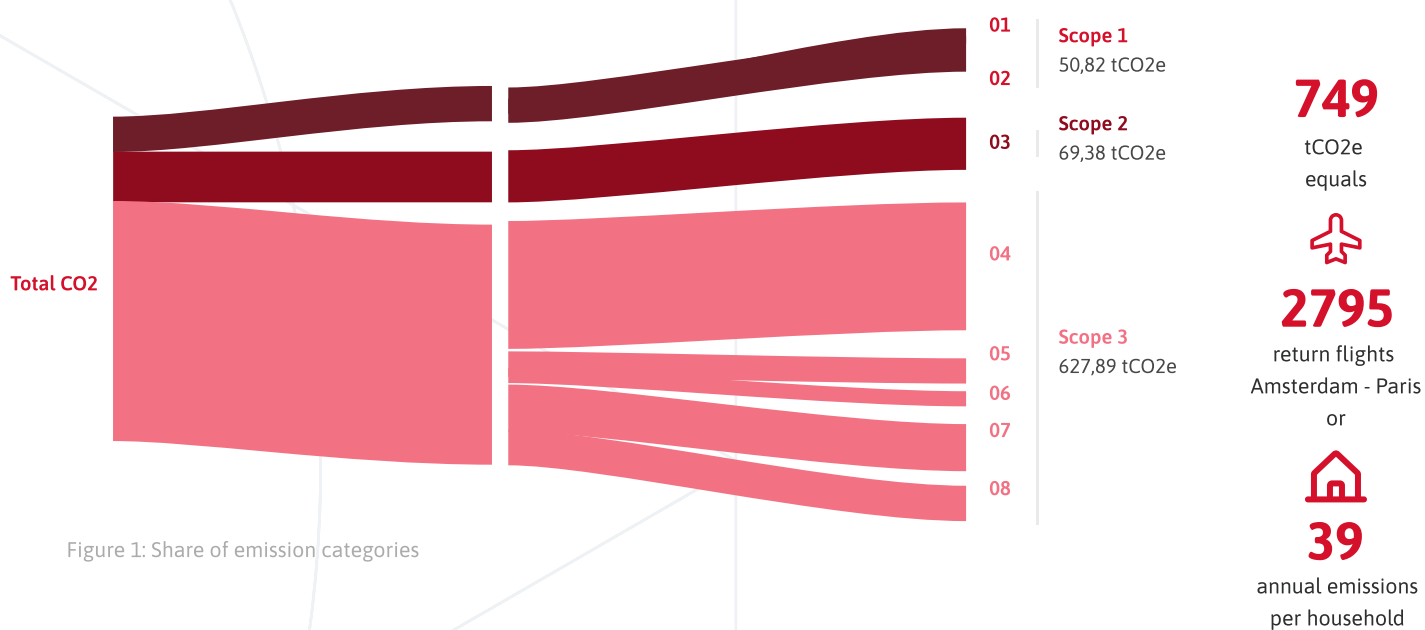


Figure 1: Share of emission categories

Scope	Category	Share	Emissions
01	01 Stationary combustion	6,5 %	48,46 tCO2e
01	02 Fugitive emissions	0,3 %	2,36 tCO2e
02	03 Purchased electricity	9,3 %	69,38 tCO2e
03	04 Purchased plastics*	53,0 %	396,77 tCO2e
03	05 Waste generation	5,0 %	37,49 tCO2e
03	06 Business travel	0,3 %	2,33 tCO2e
03	07 Employee commuting	13,1 %	97,72 tCO2e
03	08 Downstream transportation activities*	12,5 %	93,59 tCO2e

Table 3: Share of emission categories



Purchased plastics

As plastics machining experts, the primary factor contributing to our carbon footprint is purchased plastics. The emissions related to these purchased plastics were determined using emission factors provided by suppliers (location-based) or available emission references (market-based). The emissions calculations consider Cradle-to-Gate emissions and exclude transportation to BKB Precision. In the upcoming year, our objective is request residual emission factors from suppliers and to expand our coverage to calculate emissions.

We were able to obtain emission factors for 75% of the plastics purchased based on volume, while the remaining amount was excluded from the analysis. PEEK, a type of plastic that was not considered in the analysis, is anticipated to have a considerable carbon footprint as a result of its high-temperature processing methods.

To address these emissions, one potential measure is to substitute virgin materials with recycled materials, which has the potential to reduce emission factors by up to 92%. As our actions are guided by our customers' expectations, our objective is to initiate knowledge sharing on recycled plastics throughout the entire value chain, from suppliers to customers, and to explore potential pilot projects to promote the use of recycled materials.

Employee commuting

Employee commuting is the second-largest emission category. Currently, the majority of our workforce commutes using gasoline cars. The cars owned by BKB are electric. To promote low-carbon and healthy commuting practices, we are dedicated to implementing a sustainable commuting plan. We will conduct interviews with our employees to gain a better understanding of how we can support their transition to alternative forms of transportation and develop effective incentives to facilitate this shift.

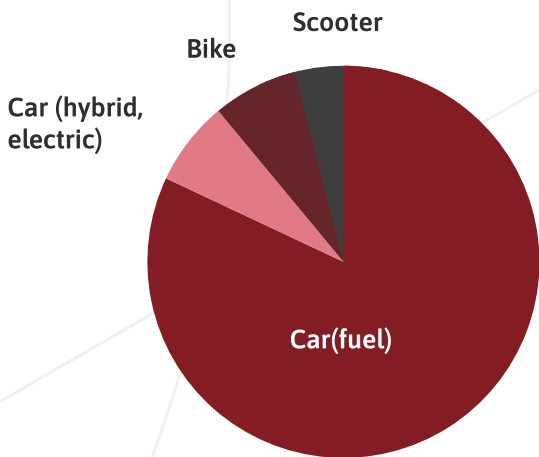


Figure 2: Proportion of commuting modes, per headcount

Car (gasoline)	82%
Car (hybrid, electric)	7%
Bike	7%
Scooter	4%
Public Transport	0%

Table 4: Proportion of commuting modes, per headcount



Purchased electricity and stationary combustion

The electricity consumed by BKB in 2022 was predominantly sourced from non-renewable sources. However, our objective for 2023 is to transition to 100% renewable energy procured from the Netherlands, which will result in a notable decrease in emissions. As for heating, we currently depend on natural gas and, at present, we don't foresee any viable alternatives for the upcoming year.

Energy consumption

Total energy from electricity consumption (market-based)	4712,38 GJ
Total energy from stationary combustion, natural gas (location-based)	866,89 GJ
Total energy consumption	5579,29 GJ

Table 5: Energy consumption

Waste generation

We recognize the significance of reporting on our waste streams. At present, our recycled waste stream constitutes 17% of our total waste. Recycling plays a critical role in advancing circularity by minimizing raw material extraction and conserving energy. We are committed to increasing this percentage in the upcoming year. Furthermore, we aim to improve our tracking and categorization of recycled waste for upcycling and downcycling processes, as well as determining the residual emission factors.

Waste

Waste, recycled in ton (%)	43,15 ton (19%)
Waste, non-recycled in ton (%)	68,15 ton (61%)
Total waste	111,30 ton

Table 6: Recycled and non-recycled waste

Reduction measures

Table 7 presents an overview of the reduction measures. During 2023, we will establish targets to commit to reducing our carbon footprint and fine-tune the measures to achieve this goal.

Scope	Category	Reduction measures 2023
Scope 2	Purchased electricity	Switch to 100% renewable energy
Scope 3	Purchased plastics*	Experiment with recycled plastics
Scope 3	Waste generation	Recycle a higher percentage of our waste streams
Scope 3	Commuting of employees	Initiate a sustainable mobility plan
Overall		Involve the BKB community and initiate a sustainability working group to further ideate on reduction measures and implement actions

Table 7: Overview of reduction measures, 2023

