



die Keure
— printing and publishing

Carbon Strategy Report 2022

Die Keure



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1 WHAT TO FIND IN THIS DOCUMENT: SUMMARY & RECOMMENDATIONS ON CARBON STRATEGY

1.1 WHY THIS REPORT?

Increasingly frequent floods, severe storms, longer droughts and forest fires become more and more difficult to contain. The evidence that the world is warming is showing up more and more often and in recent years in more extreme forms. Since the 6th IPCC report, it has also been scientifically proven that this global warming is caused by human activity.

In 2022, Die Keure has started a strategic exercise leading to the design and implementation of a carbon reduction strategy based on science-based targets. This report summarizes the approach, next steps and long term vision we are planning to implement, together with the very tangible actions that are being taken in order to reduce our carbon footprint.

As a firm, we have made a commitment to achieve an absolute CO₂ reduction of at least 42% in our scope 1 and 2 by 2030 compared to 2021, creating shared value for our clients and stakeholders while safeguarding our planet. Moreover, we even aim for zero emissions in scope 1 and 2 by 2030 without any external offset mechanisms.

1.2 HOW TO READ THIS REPORT

This report provides a summary of the different steps Die Keure has taken in the implementation of its carbon strategy. It refers to other documents that were developed throughout this process:

- Carbon footprint calculation
- Reduction plan
- SBTi Target Setting Letter

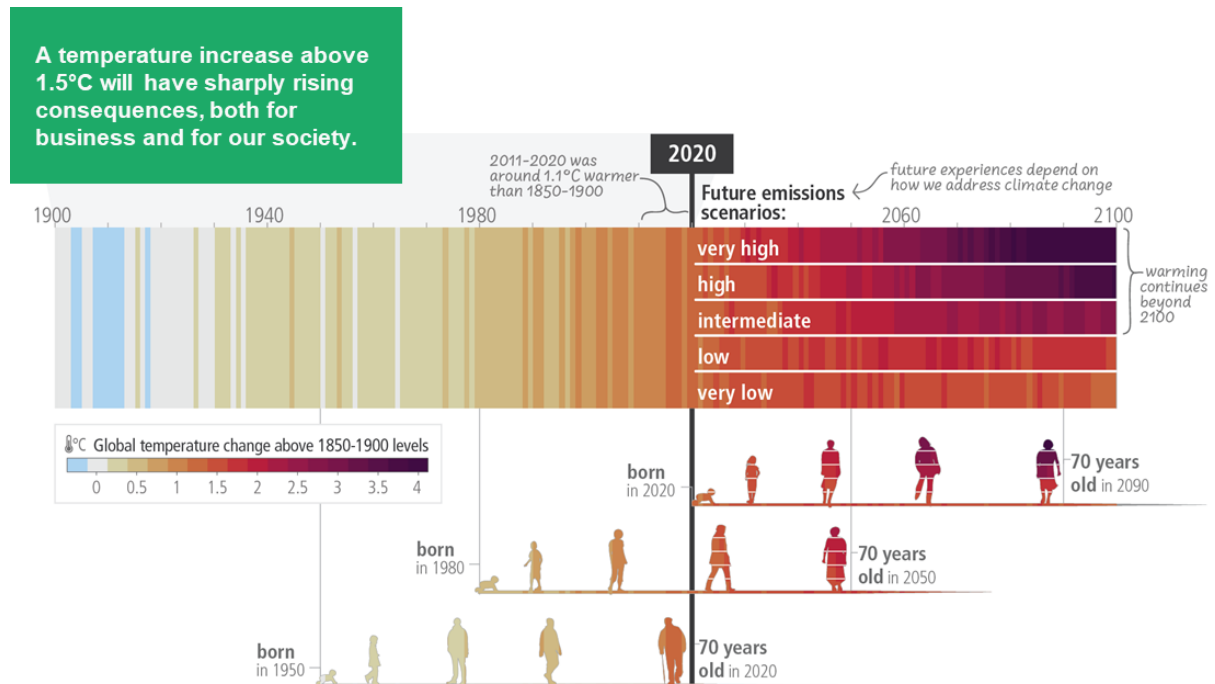
1.3 FOR WHOM IS THIS DOCUMENT MADE?

This report is intended for all who seek insight in how Die Keure takes action to reduce its carbon footprint, in line with the scientific recommendations in order to limit global warming with 1.5 degrees Celsius.

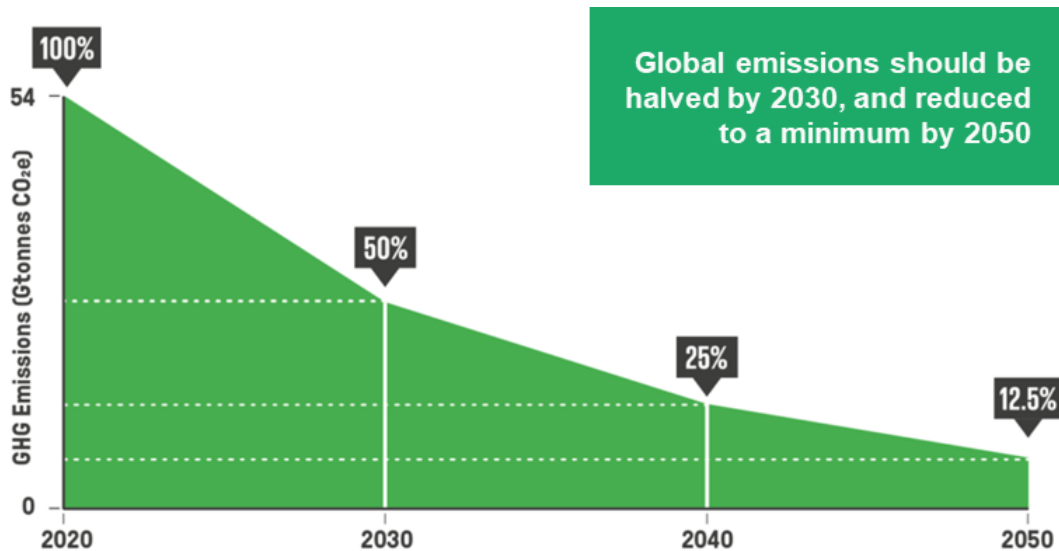
2 BACKGROUND & HOW WE WORK

2.1 FOCUS ON CO2 REDUCTION: COUNTERING GLOBAL WARMING

In recent decades, human activity has had a significant impact on the Earth's temperature: it is changing faster than at any time since the end of the last ice age 12,000 years ago. According to the Intergovernmental Panel on Climate Change (IPCC), temperature increases above 1.5°C entail sharply rising costs and consequences for business and place extreme pressure on our society. To prevent this, a sharp reduction in CO₂ emissions is needed: global emissions must be halved by 2030.



Unfortunately, the opposite is happening at this moment. Between 2009 and 2019, global carbon emissions increased by 1.5% per year. It is even believed that the peak has not yet been reached. Although there is a growing awareness that a reduction in CO₂ emissions is necessary to keep our planet liveable, we see that a strong(er) bend in the curve is needed to keep our emissions within the limits of the global carbon budget.



How much time do we have left? The answer, unfortunately, is: not much. According to a 2017 Carbon Brief study and the latest climate reports, the possibility of meeting the 1.5°C target is increasingly in doubt.

Die Keure takes its responsibility in this regard. In line with the organization's sustainable ambitions, Die Keure has developed a carbon strategy using internationally proven frameworks.

2.2 3 STAGES OF OUR CARBON STRATEGY



1. As-is analysis

What are the different emission sources, which ones are important and how big is the footprint?



2. Reduction plan

How can we realistically reduce our carbon footprint?



3. Target setting, ambition level

What ambitions do we have, how do we want to express and pursue them?

2.2.1 STAGE 1: AS-IS ANALYSIS

In October 2022 we initiated the development of our carbon strategy with the measurement of our carbon footprint for the base year 2021. During a kick-off meeting, we defined the organisational boundaries and shaped the different steps in our strategic approach.

The carbon footprint report includes an extensive analysis of our carbon footprint, explaining in detail how the calculation was done, which databases were used and what the result means for us.

2.2.2 STAGE 2: REDUCTION PLAN

Together with our partner Encon we developed a credible and ambitious reduction plan, which we finalised in March 2023. This report includes an extensive analysis of the reduction measures that could be implemented, as well as measures with a lower impact on which we will not focus in the near future.

2.2.3 STAGE 3: TARGET SETTING & AMBITION LEVEL

Based on the information of our current footprint and the ways in which we can reduce it, we defined our reduction target. We made sure that the targets covering greenhouse gas emissions from Die Keure's operations (scopes 1 and 2) are consistent with reductions required to keep warming to 1.5°C, the most ambitious goal of the Paris Agreement.

i. Technical information on the SBT

During the calculations of our carbon footprint, we defined the year 2021 as our base year. The target year (i.e. the year aimed at for the fulfilment of our reduction target) is set at 2030. In order to comply with the Paris Climate Agreement, our goal is to reduce emissions with at least 42% in this timespan. Furthermore, the emission scopes that are included in the target are scope 1 and 2. However, our scope 3 emissions will also be addressed in the coming years.

2.3 THE FRAMEWORK THAT IS USED: THE SCIENCE BASED TARGET INITIATIVE

In order to make our ambition regarding the CO₂ reduction of our activities clear, we have chosen to commit to the Science Based Targets Initiative (SBTi). The SBTi is a collaboration between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

The SBTi defines science-based reduction pathways and promotes best practice in science-based target setting and independently assesses companies' targets.

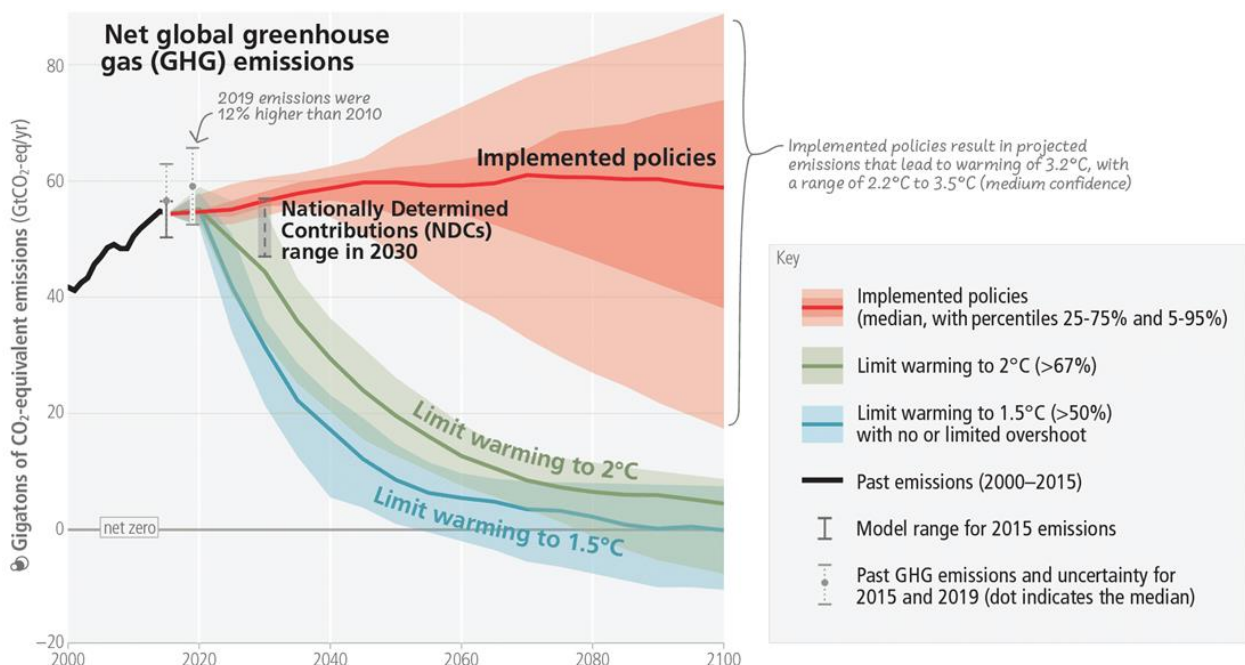


Figure 1: Global greenhouse gas emissions and warming scenarios

3 AS-IS ANALYSIS DIE KEURE: CURRENT CARBON FOOTPRINT

3.1 DEFINITIONS & BACKGROUND

Every company has a carbon footprint: the annual greenhouse gas emissions of an organization, particular activity, event, product or person. The carbon footprint is calculated according to the GHG Protocol, an international standard followed by more than 90% of Fortune 500 companies reporting to the Carbon Disclosure Project (CDP). The latter encourages organizations to report their emissions transparently and publicly. In order to compare the impact of each greenhouse gas as defined in the Kyoto Protocol, all emissions are converted to CO₂ equivalents based on their impact on global warming. In other words, a carbon footprint is always expressed in kg or tonnes of CO₂ equivalents (CO₂e). The emissions can be divided into:

Scope 1: includes the direct CO₂ emissions, caused by sources internal to the organization. This concerns emissions from building heating, transport and production-related activities. In the case of Die Keure, these include the combustion of natural gas for building heating and processes, the use of fossil fuels for company cars and emissions due to refrigerant leakages.

Scope 2: includes the indirect CO₂ emissions due to the generation of self-purchased and self-consumed electricity or heat. The organization uses this energy internally, but does not generate it internally. That generation physically takes place elsewhere.

Scope 3: includes indirect emissions of CO₂, caused by business activities of another organization within the company's value chain. This concerns emissions from sources that are not owned by the organization and over which it also has no direct influence. In addition, the distinction is also made between upstream and downstream emissions.

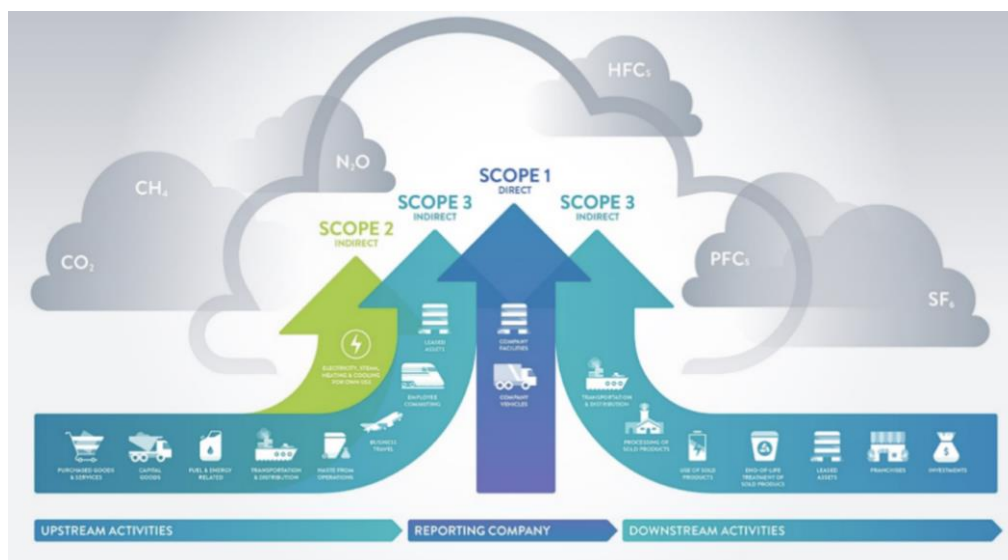


Figure 2: GHG Protocol Corporate Value Chain Standard

The figure below illustrates the link between these different scopes and the process flow of Die Keure. The frame in the middle represents our core activities, which are related to scope 1 and 2 emissions. The scope 1 emissions include the stationary combustion of natural gas, mobile combustion of diesel for company cars and emissions due to refrigerant leakages. The scope 2 emissions of Die Keure comprise the emissions from the purchase of grey electricity in the rented offices. The outer frames of the figure represent the scope 3 emissions of Die Keure. These include respectively all upstream and downstream emissions, which are explained in more detail in chapter 3.2.

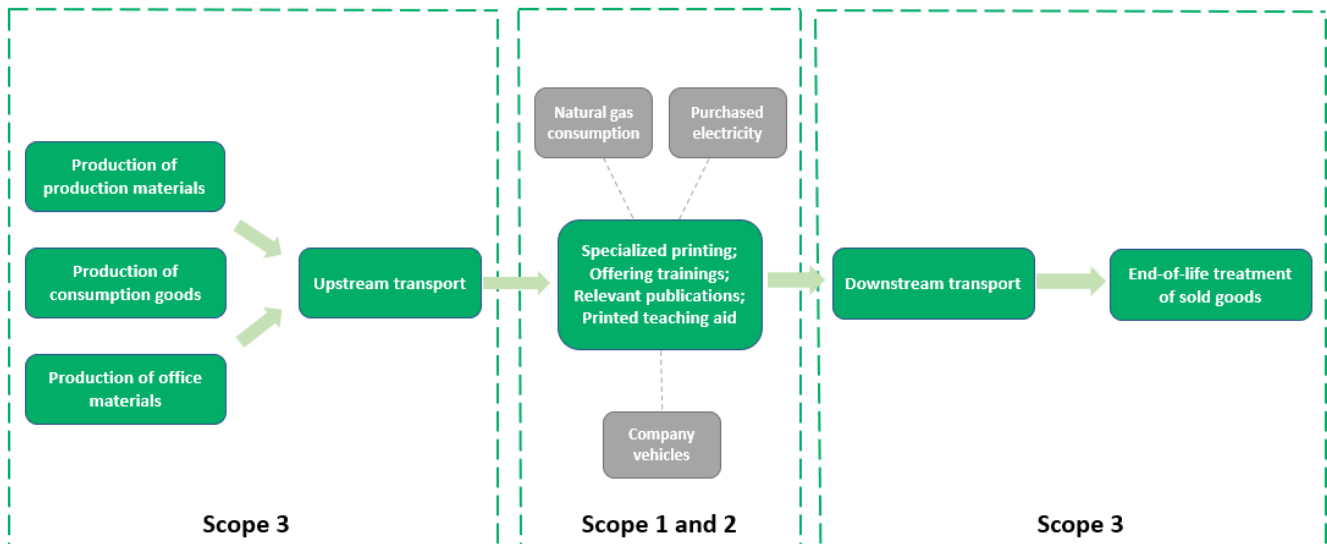


Figure 3: Process flow Die Keure

3.2 CARBON FOOTPRINT DIE KEURE

Company name	Die Keure
Scope	<p>Site 1: Brugge, Kleine Pathoekeweg 3</p> <ul style="list-style-type: none"> - Office, production facility, warehouse <p>Site 2 : Brussels (rented office)</p> <p>Site 3 : New York (rented office)</p> <p>Site 4 : Los Angeles (rented office)</p>
Footprint calculation according to:	Greenhouse Gas Protocol – Corporate standard
Used database	EcoInvent 3.6
Scope 1	285,25 tonnes CO ₂ e
Scope 2	6,24 tonnes CO ₂ e
Scope 3	6.338,01 tonnes CO ₂ e
Analysed period	31/12/2020 – 31/12/2021
Assumptions and exclusions	<p>The entire scope 1 and 2 emissions of Die Keure are calculated for the base year 2021, as well as at least 90% of the scope 3 emissions.</p> <p>To make the scope 1 and 2 calculations, estimations were made of the natural gas- and electricity consumptions in the rented offices.</p> <p>To make the scope 3 calculations, data from the administrative system of Die Keure was used as much as possible to avoid estimations. International databases such as EE-IOLCA and EcoInvent 3.6 were used to accurately calculate the CO₂ impact of purchased materials, services, processing of waste and packaging materials and the transport of goods and services.</p>

3.2.1 SCOPE 1 AND 2

The table below shows the consolidated carbon footprint of Die Keure for the year 2021. There can be seen that scope 1 has the biggest impact on the CO₂ footprint with a share of 97,86%.

Scope	Tonnes CO ₂ e	%
Scope 1	285,25	97,86
Scope 2	6,24	2,14
Total	291,49	100,00

Table 1: Carbon footprint Die Keure 2021

The total overview, including all sub categories, is being shown in the figure below:

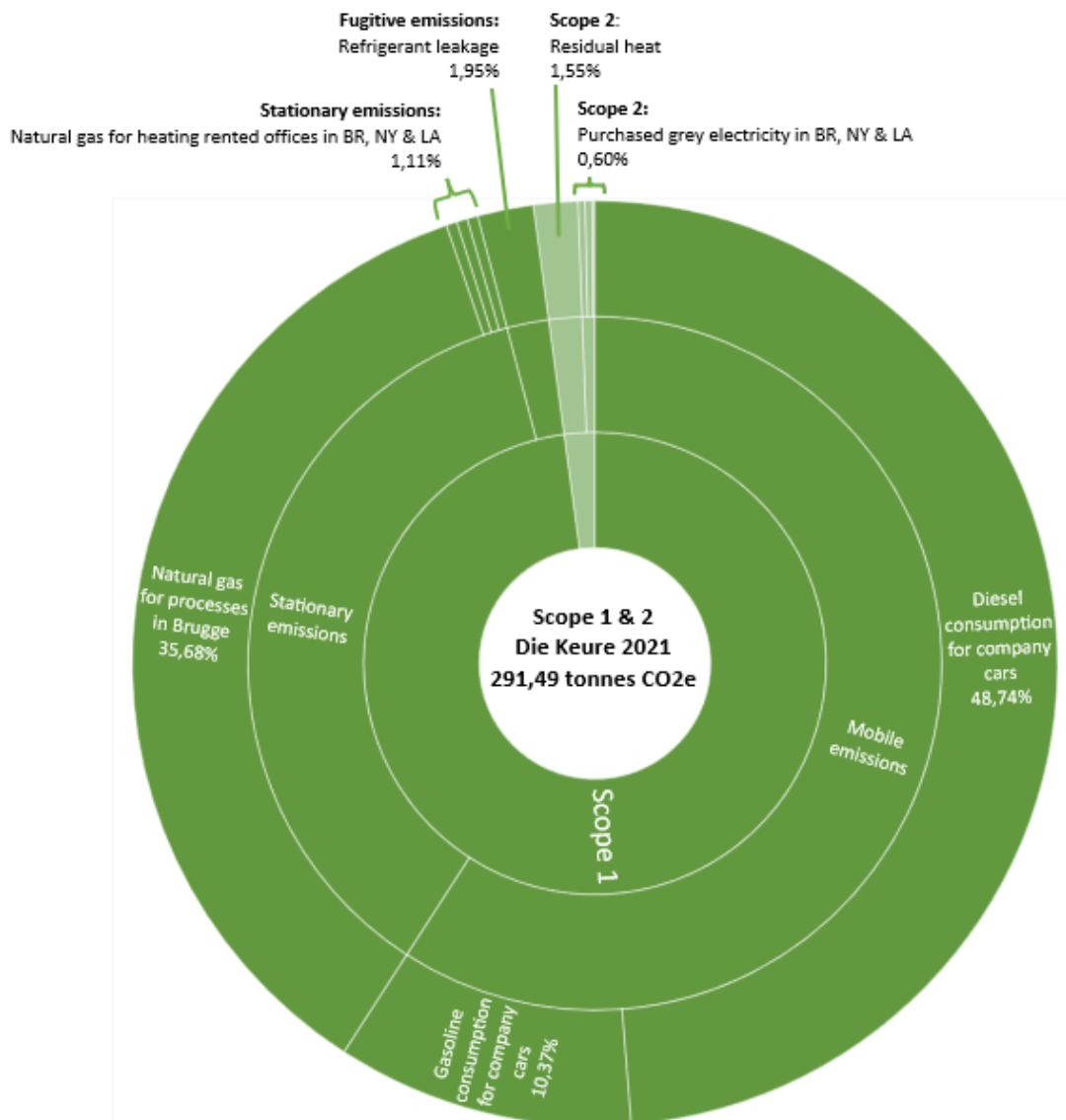


Figure 4: Overview of scope 1 and 2 emissions

3.2.2 SCOPE 3

The scope 3 subcategories that were calculated are:

- Category 1 - Purchased materials and services
- Category 2 - Capital goods
- Category 3 - Energy and fuel related upstream emissions
- Category 4 - Upstream transport and distribution
- Category 5 - Waste treatment and transport
- Category 6 - Business travel
- Category 7 - Employee commuting
- Category 9 - Downstream transport and distribution
- Category 12 – End-of-life emissions of sold products

From the 15 different scope 3 emission categories, 9 categories turned out to be relevant, which are discussed in detail below. Furthermore, it is estimated that more than 90% of the total scope 3 impact has been included in the calculation. The table below gives an overview of the different subcategories under the scope 3 emission category.

	Tonnes CO ₂ e	%Scope 3
Category 01: Purchased materials and services	3.991,03	62,97%
Category 02: Capital goods	254,52	4,02%
Category 03: Fuel and energy related activities, not included in scope 1 or 2	127,00	2,00%
Category 04: Upstream transport and distribution	1.055,72	16,66%
Category 05: Waste generated in operations	103,98	1,64%
Category 06: Business travel	3,89	0,06%
Category 07: Employee commuting	352,01	5,55%
Category 09: Downstream transport and distribution	213,03	3,36%
Category 12: End of Life of sold products	236,83	3,74%
Total	6.338,01	100%

Table 2: Scope 3 emission categories Die Keure 2021

The following figure clarifies the different categories of scope 3 with some examples, specifically for Die Keure:

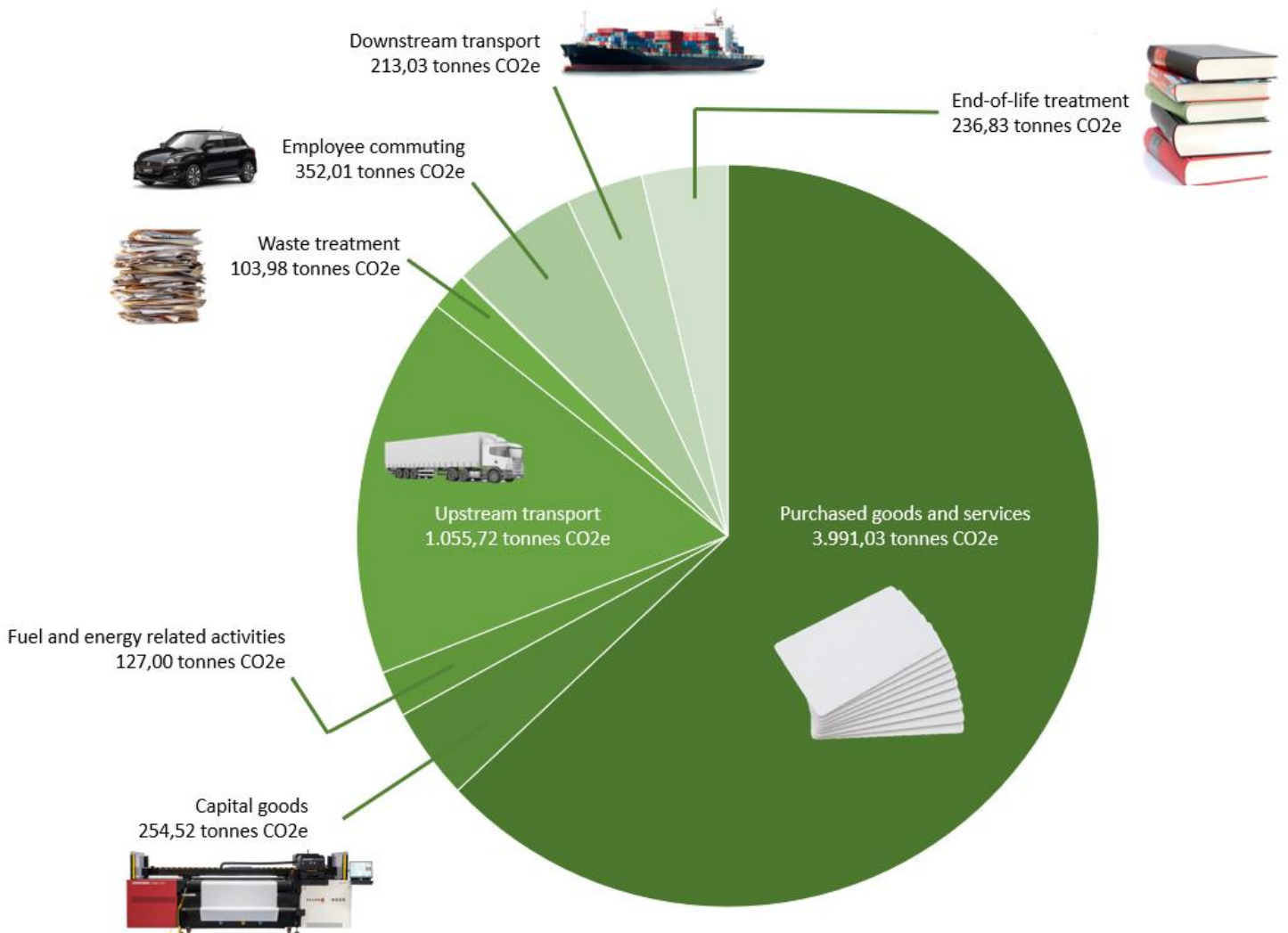


Figure 5: Examples of scope 3 emissions

4 CO2 REDUCTION ROADMAP: HOW DIE KEURE CAN MAKE A DIFFERENCE

4.1 SUMMARY & MEASURES

This section includes the reduction plan in which specific reduction measures are scheduled over the next few years. The reduction plan covers a period of 8 years (2023-2030) with the goal of achieving the absolute emission reduction target set according to the Science Based Targets Initiative at the SME level. Achievement of this target will be reassessed on an annual basis, whereby the reduction plan will be adjusted if necessary.

The objective of the reduction plan is to reduce the organization's footprint according to the established ambition level of 1,5°C. Die Keure is taking actions in order to be subscribed to the 1,5°C level where we will commit to achieve an absolute CO₂ reduction of at least 42% by 2030, compared to the 2021 base year.

	Target	Absolute reduction target from base year 2021 (%)
SBTi	1,5°C	At least 42%*

Table 3: Absolute reduction targets

*As a firm, we commit ourselves to be even more ambitious than the SBTi target. More specifically, we aim for zero emissions in scope 1 and 2 by 2030 without any external offset mechanisms.

Die Keure has developed a strategy in which several elements will be addressed to reduce the organization's carbon footprint. The different measures are summarized in the tables presented on the next page. Each measure has a certain CO₂ reduction target and a year (or period) in which they will be implemented:

Scope	Reduction measure	Year	% scope 1+2 red.	CO ₂ e red. tonnes CO ₂ e
Scope 1	Electrification mobile fleet	2023-2027	59,11	172,31
	Fully connect to heat grid	2025	35,25	102,76
	Monitoring refrigerant leakages	2023	1,94	5,68
	Reducing fossil fuel consumption during sprinkler testing	2023	0,10	0,28
	Replacement of residual TL tubes to LED (relighting)	2024	To be assessed	To be assessed
	Improving natural gas consumption data in rented offices	2023	/	/
Scope 2	CAPEX reduction – reduced energy consumption	2024	To be assessed	To be assessed
	Partial transition to digital printing	2025	To be assessed	To be assessed
	Improving electricity consumption data in rented offices	2023	/	/

Table 4: Reduction plan scope 1 and 2 Die Keure

The figure below shows the carbon footprint of Die Keure as a function of time. Currently, future growth of the organization is not taken into account. For this reason, it is important to look for additional ways to reduce emissions by 2030 in the coming years.

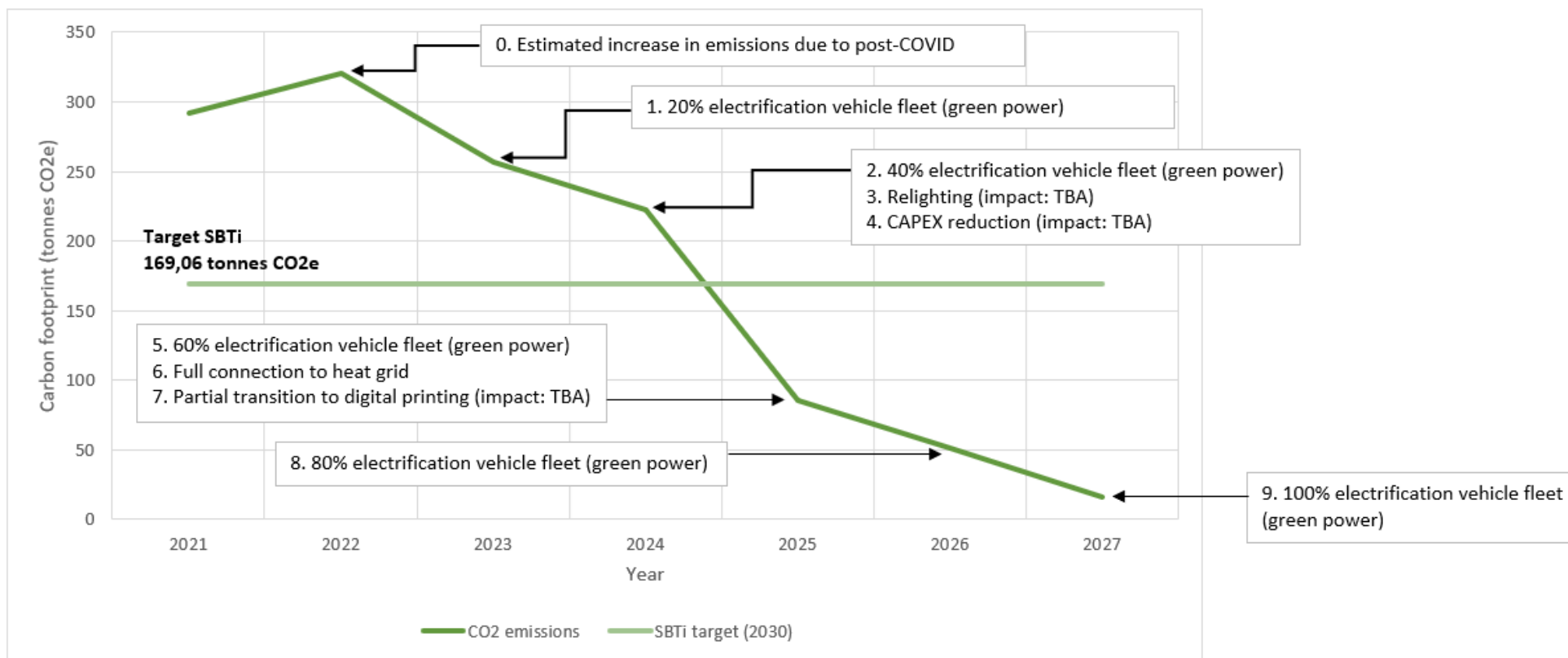


Figure 6: Carbon footprint of Die Keure as a function of time

Based on the figure above, it can be seen what effect each measure has on Die Keure's target for the SBTi trajectory.

The reduction plan for the scope 3 emissions of Die Keure is shown in the table below:

Scope	Reduction measure	Year	% reduction	CO ₂ e footprint
Scope 3	Suppliers checklist	By 2030	/	/
	Transporters checklist	By 2030	/	/
	Implementation sustainable procurement policy	By 2030	/	/
	Continuation of encouraging alternative commuting modes for employees	By 2030	/	/
	Circular design of sold books	By 2030	/	/

Table 5: Reduction plan scope 3 Die Keure



4.2 WHY DIE KEURE CHOOSES CONVENTIONAL OFFSET TECHNOLOGY

LED UV and new digital technology are enjoying a boom in the printing sector. Understandably, as they offer a number of advantages in terms of production. So why does die Keure still swear by traditional offset printing?

The main advantages of LED-UV printing, for example, are:

- Instant curing: the ink is dry within seconds
- Faster processing and increased productivity
- Lower ink and energy consumption

However, there is a downside to every medal. LED-UV curing technology uses highly reactive inks. After exposure to a UV or LED-UV light source, polymerization of the monomers occurs, causing the inks to cure immediately. But certain ink residues (monomers) always remain on the backing, which are harmful to the human body.

Paper printed with LED-UV inks is not recyclable because the inks have difficulty separating from their carrier. As a result, residues end up in the paper circuit (i.e. polymers and toxic monomers). The greater the share of that paper in the market, the greater the impact. Nowadays, there are LED-UV inks on the market that would be slightly better suited to the de-inking process, but research shows that de-inking remains problematic in reality. Specifically, it involves spots on the paper, the so-called dirt speck area. As a result, one can never obtain the same whiteness as the original paper. With paper from conventional printing presses, this is possible after recycling.

If, however, people manage to address and solve the recyclability and toxicity issues, we will be more than happy to engage in LED-UV. But until that date, the answer is no LED-UV at Die Keure.

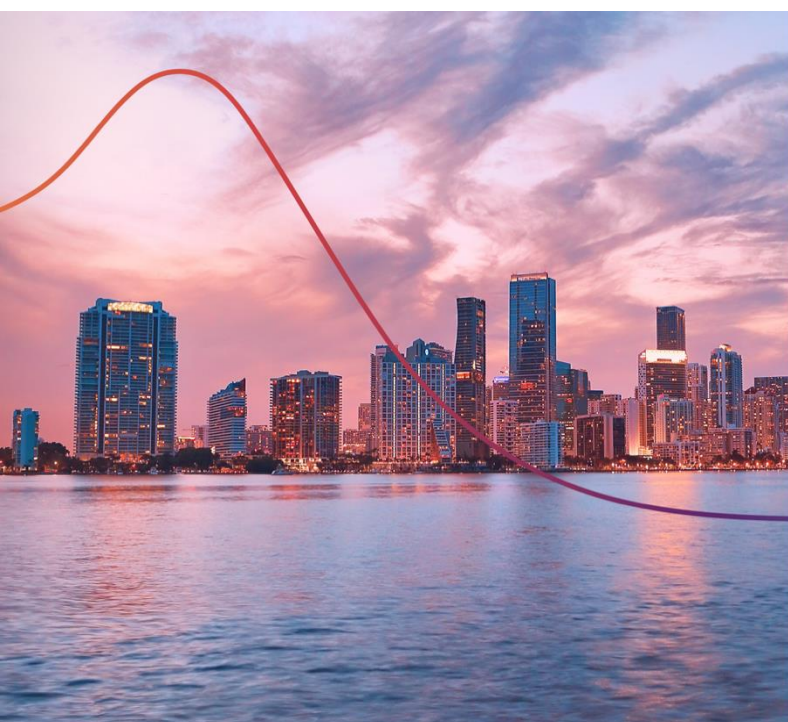


5 CO2 STRATEGY OF DIE KEURE: TARGETS & AMBITION LEVEL

5.1 TARGET SETTING: THE SCIENCE BASED TARGET INITIATIVE

More and more companies are setting targets regarding the reduction of their carbon emissions. However, when will a company know if it is doing enough to actually combat climate change? The Science Based Target initiative (SBTi) offers an answer to this question.

The initiative is a collaboration between CDP, United Nations Global Compact (UN Global Compact), World Resources Institute (WRI) and World Wide Fund for Nature (WWF), and presents a methodology to calculate how fast and to what extent companies need to reduce their CO₂ emissions to be in line with the Paris Climate Agreement targets.



WE'VE SET A
SCIENCE-BASED
TARGET SME pathway



Die Keure is one of the 95 Belgian companies that has successfully joined the SBTi. Our commitment is as follows:

Die Keure has had its emissions reduction targets approved by the Science Based Targets initiative as consistent with levels required to meet the goals of the Paris Agreement.

The targets covering greenhouse gas emissions from Die Keure's operations (scopes 1 and 2) are consistent with reductions required to keep warming to 1.5°C, the most ambitious goal of the Paris Agreement.

We are committed to achieve at least a 42% CO₂ reduction in scope 1 and 2, by 2030 with 2021 as the reference year. In addition, we commit ourselves to be even more ambitious than the SBTi target. More specifically, we aim for zero emissions in scope 1 and 2 by 2030 without any external offset mechanisms.

Our commitment can be viewed on the SBTi website at:

<https://sciencebasedtargets.org/companies-taking-action>

In order to make this registration possible, we have had the entire scope 1, 2 and 3 emissions of 2021 mapped out and a comprehensive reduction plan drawn up (see previous chapter). In order to continue to comply with the conditions of the SBTi, we commit ourselves to recalculate the CO₂ footprint each year and to closely follow up the reduction plan. The reduction plan will be adjusted if necessary, so that the commitment of at least 42% CO₂ reduction between 2021 and 2030 can be met.

This reduction plan currently focuses mainly on scope 1 and 2, but our scope 3 emissions will also be addressed in the coming years.

	Tonnes CO ₂ e base year 2021	SBTi target 2030		Die Keure target 2030	
Scope 1	285,25	Total absolute reduction of 42%		Total absolute reduction of 100%	
Scope 2	6,24				
Scope 1+2	291,49	169,06	58%	0,00	0%

Table 6: Summary table Die Keure

If Die Keure's operations are maintained as they are in 2021, the intended reduction target in the scope 1 and 2 emissions can be achieved by 2030 with the measures included in the reduction plan. However, it is important to monitor the realized reduction annually, since a growth of the company and therefore its activities, can cause unpredictable increases in CO₂ emissions.