Carbon Footprint Report 2023

For Flexible Packaging and Label Production:
Methodology and Insights

Aurika

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Introduction

As part of our ongoing commitment to environmental responsibility, this year's Carbon Footprint Report highlights our growing understanding of the factors that impact packaging's environmental footprint. With more accurate and comprehensive data, we are increasingly able to pinpoint what drives our carbon emissions.

In 2022, we expanded our assessment to include both flexible packaging and label production, broadening our environmental evaluation. While we have always focused on food safety, quality, and customer experience, we are equally dedicated to reducing our environmental impact, aligned with the goals of the Paris Agreement.

Building on our 2021 baseline, this report tracks our emissions, provides insights into our progress, and identifies areas for improvement. It is one step forward on our path to a more sustainable future, reaffirming our commitment to our customers, partners, and the planet.

Sincerely,
Arūnas Akstinas
General manager

Flexible Packaging Production

Methodology | Packaging Production

ClimateCalc
Cert. no. CC-000177/LT

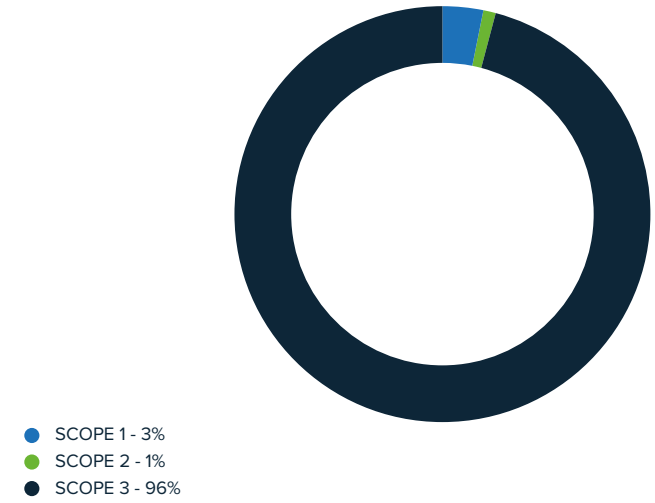
The evaluation was conducted using ClimateCalc methodology based on recommendations of Intergraf association.
Evaluation is supported and controlled by Ecograf.

Annual CO_2e Emissions

Total 35 899t CO_2e per annum 2023 vs 33 372t CO_2e per annum 2022

Total CO_2e was increased by 7,5%, but the impact distribution of each scope remained the same.

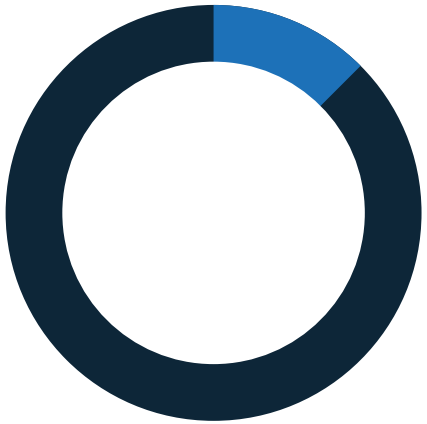
Scope 3 evaluation was done in more detail as data becomes available from more suppliers and partners.



Carbon Footprint Assessment

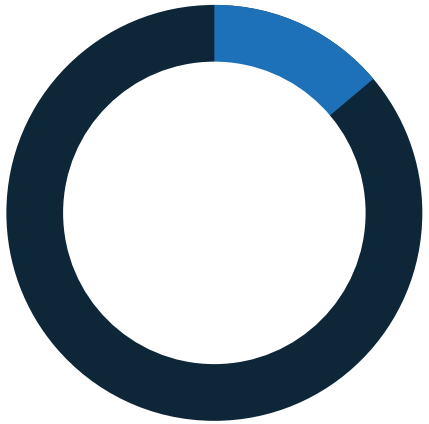
SCOPE 1:
Direct Emissions - Combustion

The majority of Scope 1 emissions remain from natural gas combustion in production processes, with small deviation from last year.



- FUEL - **12%**
- COMBUSTION - **88%**

2022



- FUEL - **14%**
- COMBUSTION - **86%**

2023

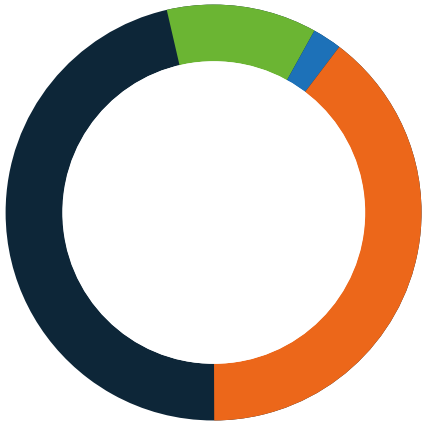
Carbon Footprint Assessment

SCOPE 2:
Indirect Emissions - Green Energy Origin

Our total electricity usage increased by 13,8%. However, Green Energy market in 2023 switched back from hydro towards biomass, which increased Carbon Footprint more than twice when taking into account the whole power plant life cycle.

190 t CO_2e → 468 t CO_2e

100% Green Energy



- HYDRO - **40%**
- SOLAR - **2%**
- BIO - **12%**
- WIND - **46%**

2022

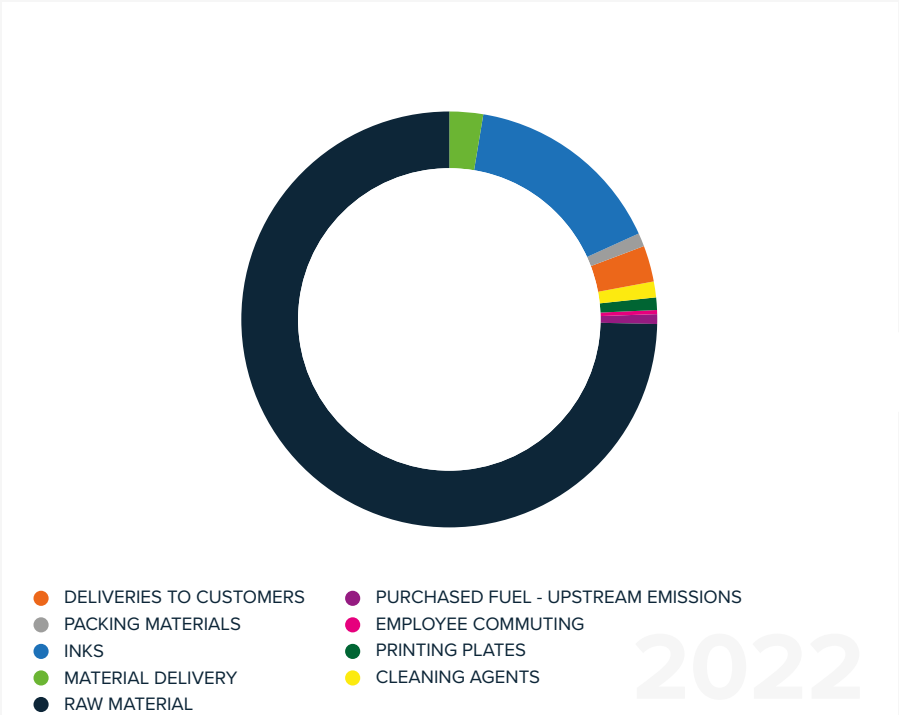
- HYDRO - **10%**
- SOLAR - **4%**
- BIO - **39%**
- WIND - **47%**

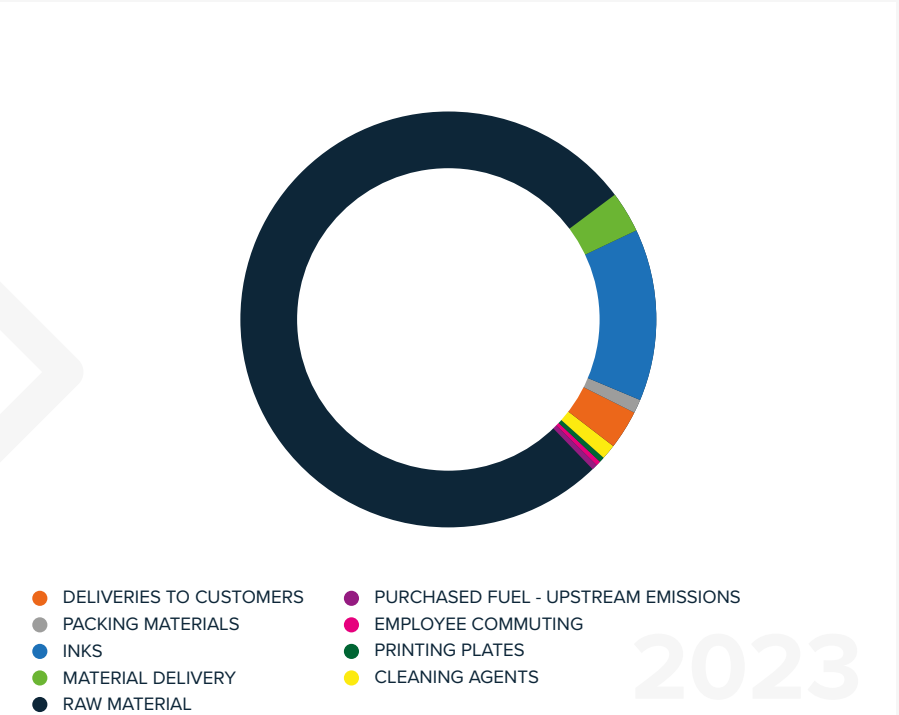
2023

Carbon Footprint Assessment

SCOPE 3:
Other Indirect Emissions

Total Carbon Footprint from Scope 3 had ~7,3% increase while maintaining very similar proportions from all sources.





Flexible Packaging Carbon Footprint Assessment

The impact of flexible packaging on the environment can be controlled by monitoring and reducing its carbon footprint.
In this case study, we demonstrate the reduction of CO_2e resulting from the transition from multimaterial to monomaterial flexible packaging.

Carbon Footprint Calculation Of The Printed Matter

	PET+PE	monoPE
Production of film:	1437 kg CO_2 eq	966 kg CO_2 eq
Transportation of film to the company:	77 kg CO_2 eq	84 kg CO_2 eq
Production of ink and varnish:	257 kg CO_2 eq	257 kg CO_2 eq
Production of packing:	10 kg CO_2 eq	10 kg CO_2 eq
Work of subsupplier:	0 kg CO_2 eq	0 kg CO_2 eq
Transportation to the customer:	4 kg CO_2 eq	4 kg CO_2 eq
Company related emissions:	163 kg CO_2 eq	165 kg CO_2 eq
Other emissions:	102 kg CO_2 eq	78 kg CO_2 eq
Total emissions:	**2050 kg CO_2 eq**	**1565 kg CO_2 eq**

CO_2e reduction 30%.

Note: The evaluation of emissions is based on the exact packaging produced under the same conditions except the material. In general reduction of CO_2e may vary from one packaging to another depending on its raw materials, printing method, packaging design, batch volume, destination, etc.

Labels Production

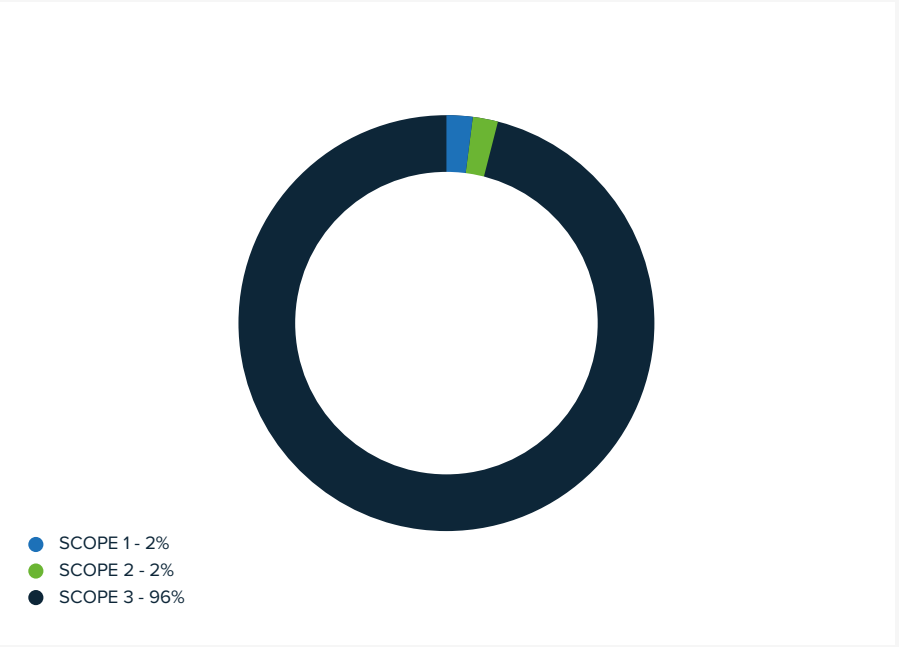
Methodology | Labels Production

ClimateCalc
Cert. no. CC-000177/LT

The evaluation was conducted using ClimateCalc methodology based on recommendations of Intergraf association.
Evaluation is supported and controlled by Ecograf.

Annual CO_2e Emissions

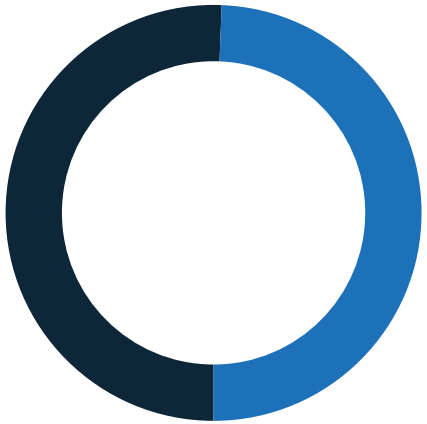
Total emissions decreased from 15 197t CO_2e in 2022 to 15 076t CO_2e in 2023



Carbon Footprint Assessment

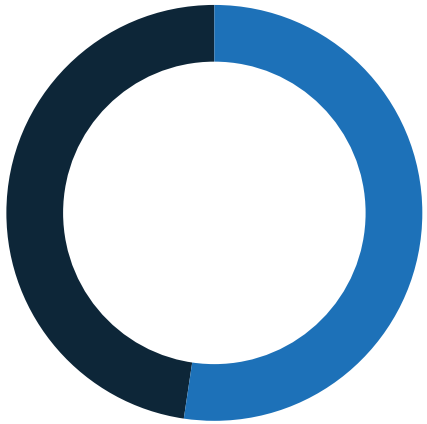
SCOPE 1:
Direct Emissions - Combustion

Distribution between combustion and fuel related carbon footprint remains similar since last year.



- FUEL - **49%**
- COMBUSTION - **51%**

2022



- FUEL - **52%**
- COMBUSTION - **48%**

2023

Carbon Footprint Assessment

SCOPE 2:
Indirect Emissions - Green Energy

Our total electricity usage decreased by 5%. However, Green Energy market in 2023 switched back from hydro towards biomass, which increased Carbon Footprint 2 times when taking into account the whole power plant life cycle.

156 t CO_2e → 320 t CO_2e

100% Green Energy

- HYDRO - **40%**
- SOLAR - **2%**
- BIO - **12%**
- WIND - **46%**

2022

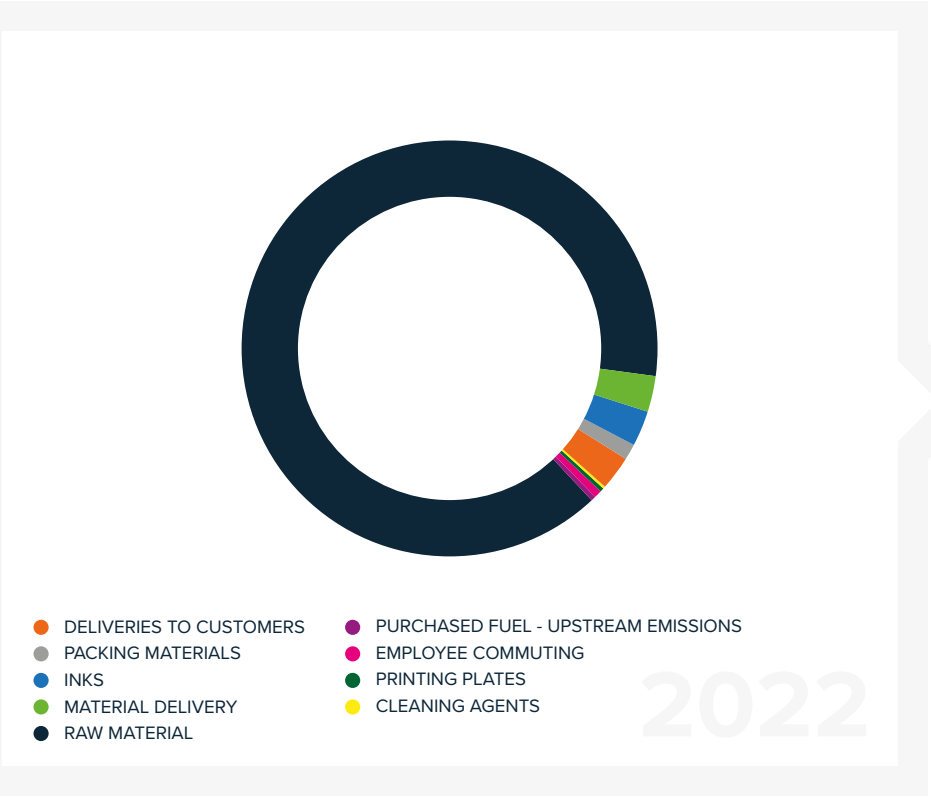
- HYDRO - **10%**
- SOLAR - **4%**
- BIO - **39%**
- WIND - **47%**

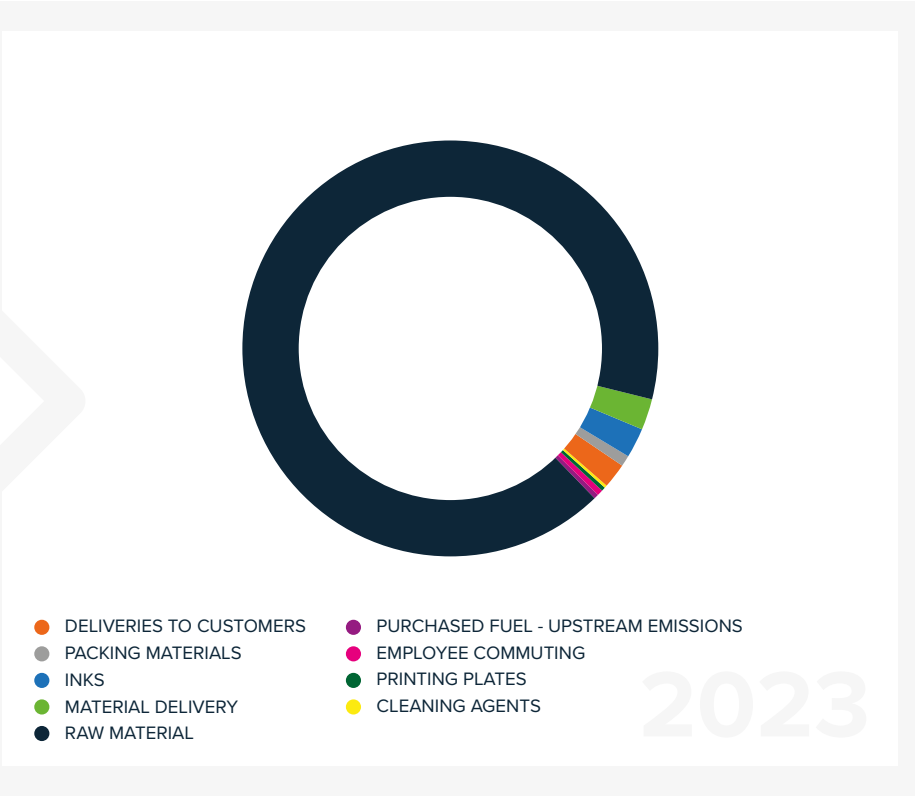
2023

Carbon Footprint Assessment

SCOPE 3:
Other Indirect Emissions

Total Carbon Footprint from Scope 3 had a 2% decrease while maintaining very similar proportions from all sources.





Lids Carbon Footprint Assessment

In this case study, we demonstrate the reduction of CO_2e resulting from transitioning from aluminum to PET lids for dairy containers.

Carbon Footprint Calculation Of The Printed Matter

	ALU 35mic Lids	PET 50mic Lids
Production of substrate:	642 kg CO_2 eq	177 kg CO_2 eq
Transportation of film to the company:	16 kg CO_2 eq	8 kg CO_2 eq
Production of ink and varnish:	31 kg CO_2 eq	12 kg CO_2 eq
Production of packing:	7 kg CO_2 eq	7kg CO_2 eq
Work of subsupplier:	0 kg CO_2 eq	0 kg CO_2 eq
Transportation to the customer:	17 kg CO_2 eq	15 kg CO_2 eq
Company related emissions:	13 kg CO_2 eq	11 kg CO_2 eq
Other emissions:	38 kg CO_2 eq	12 kg CO_2 eq
Total emissions:	**764 kg CO_2 eq**	**242 kg CO_2 eq**

CO_2e reduction 68,3%.

Note: The assessment of emissions is based on the exact lid batch produced under the same conditions except for the material used. Generally, the reduction of CO_2e may vary among different packaging types depending on factors such as raw materials, printing method, packaging design, batch volume, destination, etc.

Key Findings

Both factories show similarities between their 2022 and 2023 results, with some minor differences in certain data points. In label production, there has been a change in the material shares of total consumption, with an increase in the share of paper and aluminum. We presume that the 7% increase in CO_2e emissions per 1,000 kg may originate from this change.

Meanwhile, in packaging production, there is a decrease in CO_2e emissions per 1,000 kg by 9.6%. This decrease is likely due to increased production efficiency, particularly by converting more materials with the same amount of energy and and reducing production waste.

The data also showed that the carbon footprint of green energy can vary widely depending on its source. Biomass power plants remain the most CO_2-intensive among all green energy sources.

Conclusion

In line with our commitment to transparency, accountability, and effective environmental stewardship, we are continuing to collect accurate data and monitor our carbon footprint rather than setting specific reduction goals at this stage. This decision is based on our understanding, experience, and expert recommendations that meaningful progress in reducing carbon emissions requires comprehensive and reliable data analysis to accurately assess the impact of implemented measures. This approach ensures that our future goals are well-founded and achievable.

As more partners across the supply chain provide accurate data, we believe that, in the near future, we will be better positioned to identify the most impactful areas for improving packaging sustainability and set reasonable goals for real change. For now, our focus remains on data collection and analysis to build a solid foundation for effective carbon reduction strategies.