



2025-09-17

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

2515489 (sold in CH)

Summary



01 | Methodology



02 | Results

01

Methodology

Environmental Impact Assessment

Functional unit

The functional unit is a quantified performance of a product system for use as a reference unit. One of the primary purposes of a functional unit is to provide a reference to which the input and output data are normalized (in a mathematical sense).
The functional unit of this analysis is "6 set(s) of bound pages of paper for the purpose of writing".

Impact Indicator

The impact is measured through the "IPCC 2013 GWP 100a" method.

Electricity impact calculation method

Following guidelines from the GHG Protocol, the impact of electricity is calculated using the location-based approach. This means that the emission factors used represent the average annual carbon intensity of the power grid in the country the processes take place in.

Hypothesis

Environmental Impact Assessment

System Boundaries

The scope of this research includes the complete lifecycle of a notebook from raw material extraction to disposal options for each material, which is the cradle-to-grave perspective.

Exclusions

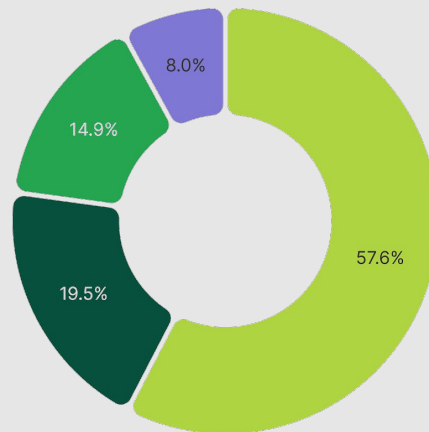
The impact of secondary packaging and writing utensils are excluded from this assessment.

02

Results

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Climate Change

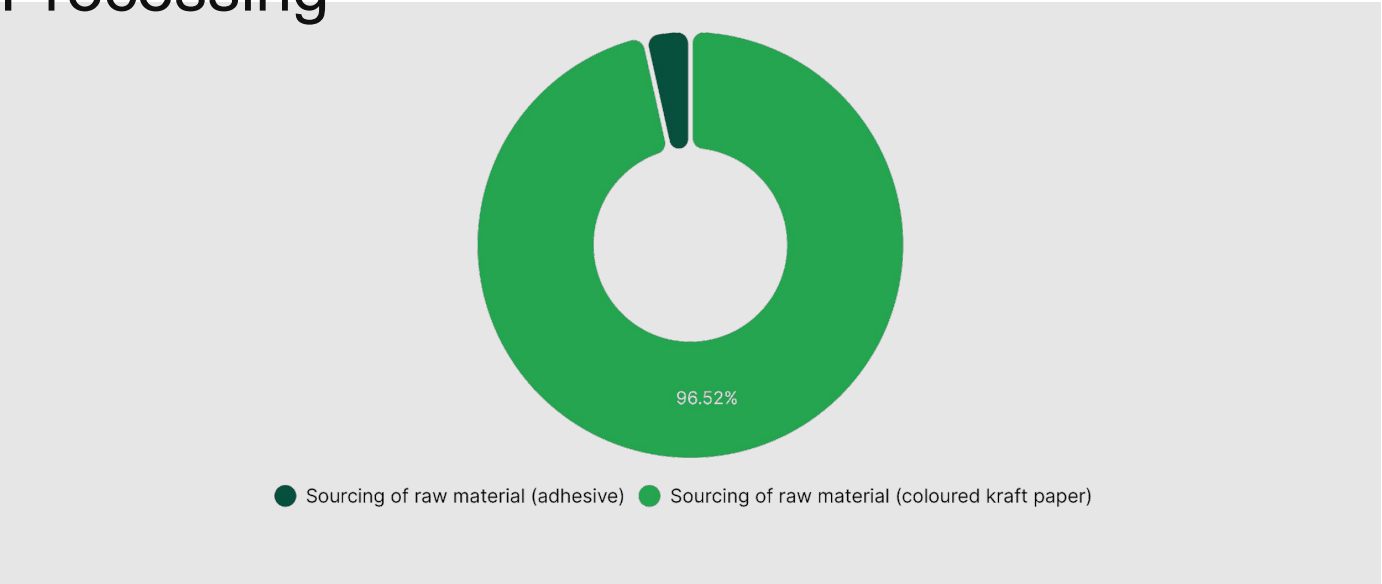


● End-of-Life Treatment ● Manufacturing ● Raw Material Extraction and Processing ● Transportation and Distribution

Step	Impact (g CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	422.17	57.61 %
End-of-Life Treatment	143.13	19.53 %
Manufacturing	109.19	14.90 %
Transportation and Distribution	58.29	7.95 %
TOTAL	732.78	100.00 %

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Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Sourcing of raw material (coloured kraft paper)	2	0.36	407.48	96.52 %
Sourcing of raw material (adhesive)	1	2.69 · 10 ⁻³	14.68	3.48 %

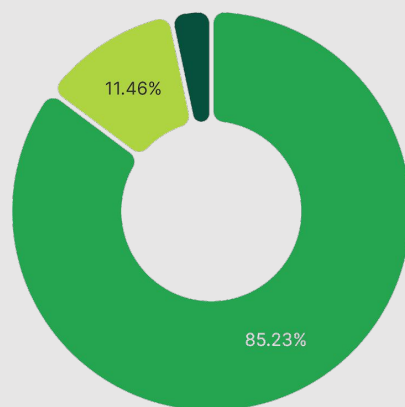
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TOTAL			422.17	100.00 %
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Climate Change - Manufacturing



- Electricity usage during material transformation (adhesive)
- Electricity usage during material transformation (coloured kraft paper)

Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (coloured kraft paper)	4	0.13	93.06	85.23 %
Natural gas usage during material transformation (coloured kraft paper)	3	0.07	12.51	11.46 %
Electricity usage during material transformation (adhesive)	4	5 · 10 ⁻³	3.62	3.31 %
TOTAL			109.19	100.00 %

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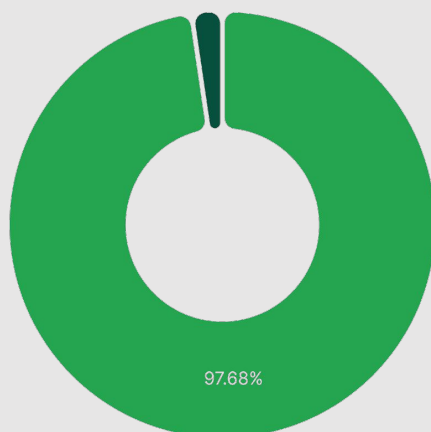
Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Freight	5	0.24	58.29	100.00 %
TOTAL			58.29	100.00 %

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Climate Change - End-of-Life Treatment



● End of life (adhesive) ● End of life (coloured kraft paper)

Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
End of life (coloured kraft paper)	7	0.24	139.82	97.68 %
End of life (adhesive)	6	$2.44 \cdot 10^{-3}$	3.31	2.32 %

TOTAL	143.13	100.00 %
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Contact us

Alexis Normand CEO

www.greenly.earth