

greenly

2025-09-16

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

108753 (sold in FR)

Summary



01 | Methodology



02 | Results

01

Methodology

Environmental Impact Assessment

Functional unit	<p>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).</p> <p>The functional unit of this analysis is "1 set(s) of bound pages of paper for the purpose of writing".</p>
Impact Indicator	<p>The impact is measured through the "IPCC 2013 GWP 100a" method.</p>
Electricity impact calculation method	<p>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.</p>
Hypothesis	<p>The Product's material composition is supplemented, if necessary, by secondary information as shown in the list below.</p> <ul style="list-style-type: none"> - pages: Paper 84% - cover: Cardboard 12% - binding: Metal 4% <p>Manufacturing Processes and associated loss percentages are assumed based on materials in the product.</p> <p>The electricity is based on the average in the country of manufacturing.</p> <p>Transportation is based on the common routes between the country of manufacturing and the country of sale.</p> <p>No replacements during the lifetime, therefore there are no emissions corresponding to the usage phase of the clipboard.</p> <p>The End of Life is based on the average waste management process of the materials in the product.</p>

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

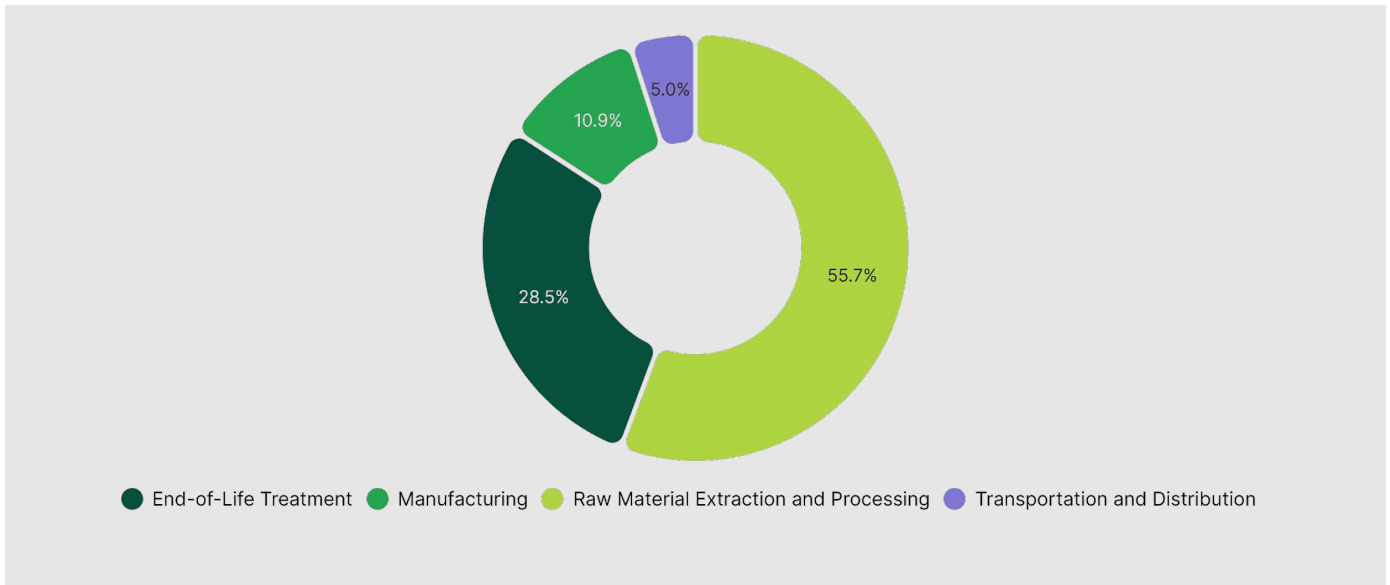
The impact of secondary packaging and writing utensils are excluded from this assessment.

02

Results

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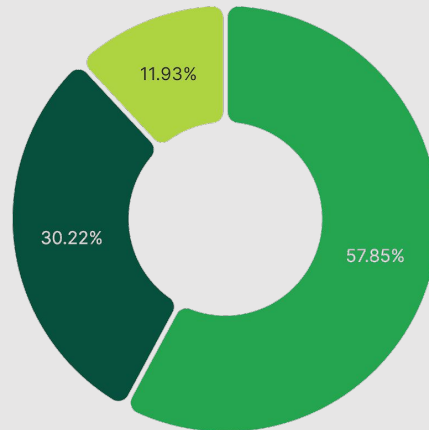
Climate Change



Step	Impact (g CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	169.14	55.69 %
End-of-Life Treatment	86.43	28.46 %
Manufacturing	33	10.87 %
Transportation and Distribution	15.14	4.99 %
TOTAL	303.72	100.00 %

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Climate Change - Raw Material Extraction and Processing

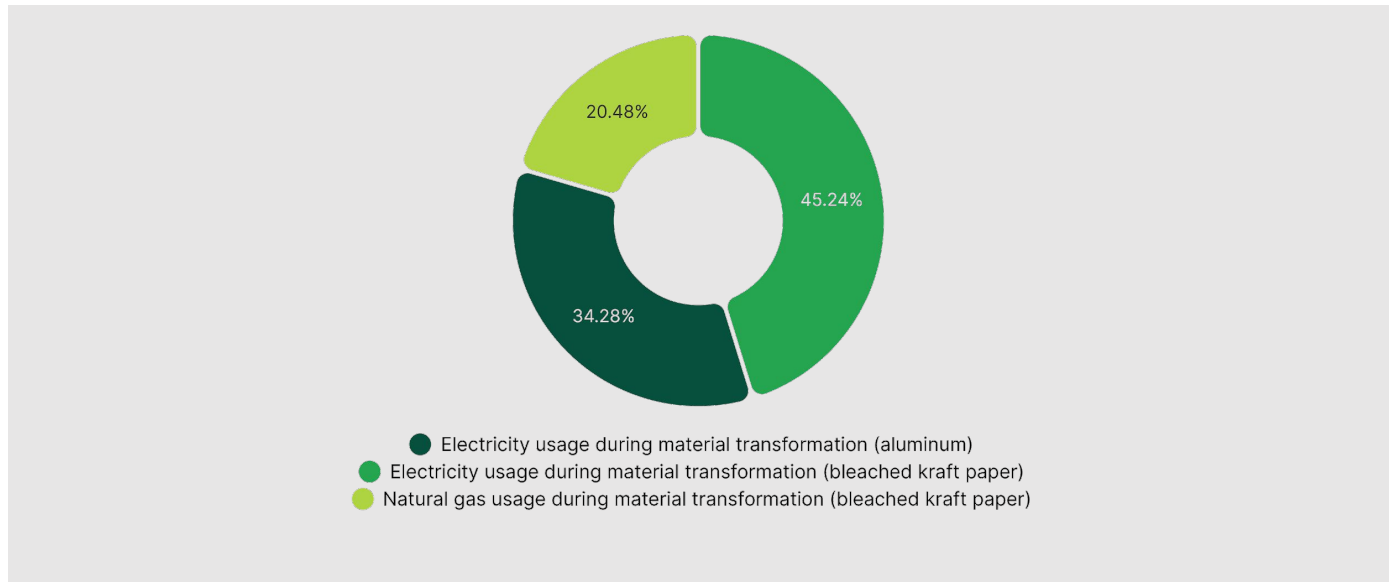


● Sourcing of raw material (aluminum) ● Sourcing of raw material (bleached kraft paper)

Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Sourcing of raw material (bleached kraft paper)	3	0.2	97.84	57.85 %
Sourcing of raw material (aluminum)	1	6.86 · 10 ⁻³	51.11	30.22 %
Sourcing of raw material (cardboard)	2	0.03	20.18	11.93 %
TOTAL			169.14	100.00 %

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Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (bleached kraft paper)	4	0.07	14.93	45.24 %
Electricity usage during material transformation (aluminum)	4	0.05	11.31	34.28 %
Natural gas usage during material transformation (bleached kraft paper)	5	0.04	6.76	20.48 %
TOTAL			33	100.00 %

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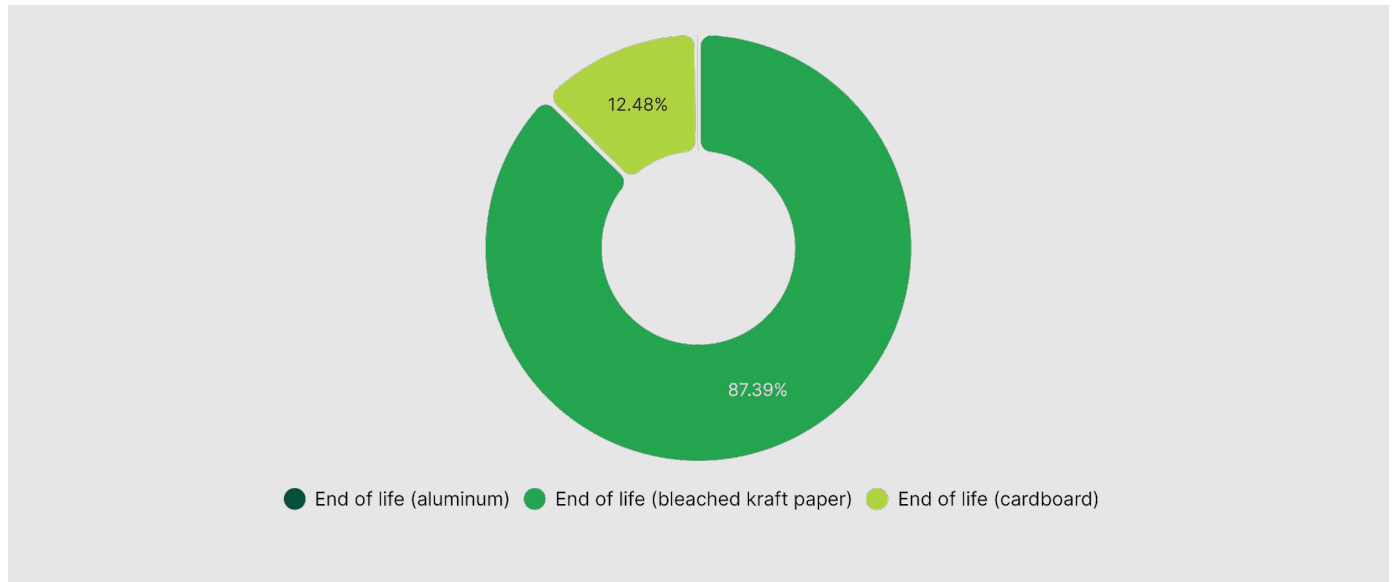
Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Freight	6	0.16	15.14	100.00 %
TOTAL			15.14	100.00 %

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Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
End of life (bleached kraft paper)	8	0.13	75.54	87.39 %
End of life (cardboard)	8	0.02	10.79	12.48 %
End of life (aluminum)	7	6.24 · 10 ⁻³	0.1	0.12 %
TOTAL			86.43	100.00 %

Contact us

Alexis Normand CEO

www.greenly.earth