

greenly

2025-09-17

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

123618 (sold in IT)

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	

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

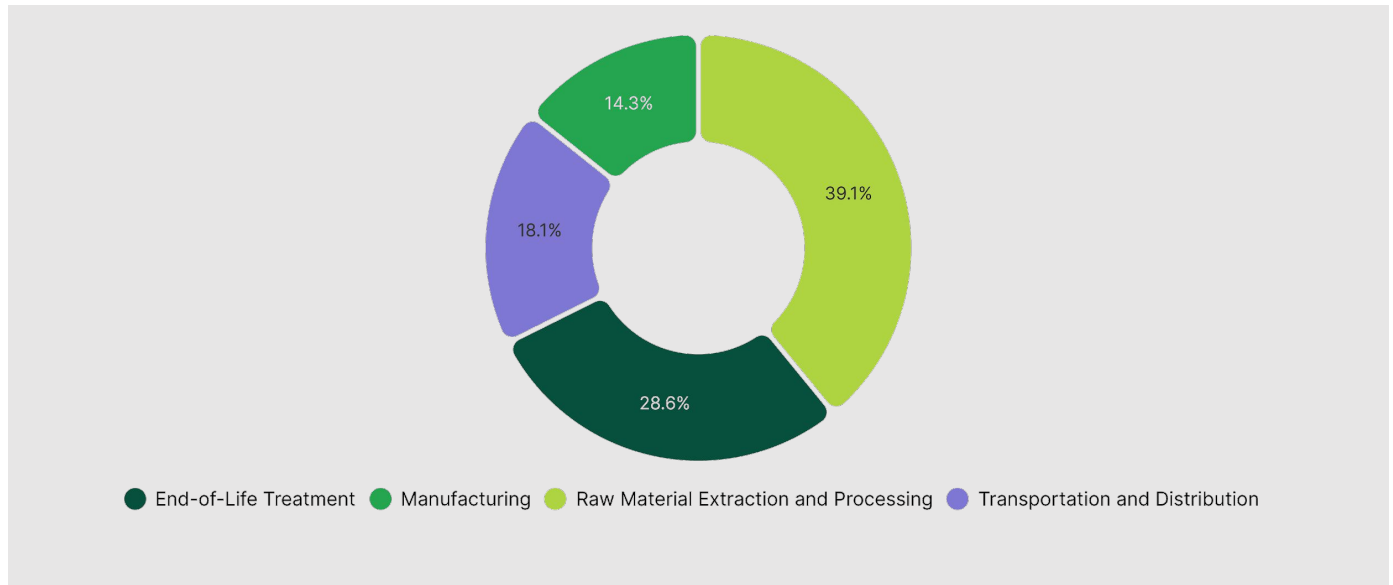
The impact of secondary packaging and writing utensils are excluded from this assessment.

02

Results

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Climate Change



Step	Impact (g CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	159.16	39.08 %
End-of-Life Treatment	116.36	28.57 %
Transportation and Distribution	73.59	18.07 %
Manufacturing	58.2	14.29 %
TOTAL	407.31	100.00 %

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Climate Change - Raw Material Extraction and Processing



● Sourcing of raw material (adhesive) ● 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)	1	0.3	147.23	92.50 %
Sourcing of raw material (adhesive)	2	2.19 · 10 ⁻³	11.94	7.50 %
TOTAL			159.16	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)	3	0.1	46.23	79.44 %
Natural gas usage during material transformation (bleached kraft paper)	4	0.06	10.17	17.48 %
Electricity usage during material transformation (adhesive)	3	4.06 · 10 ⁻³	1.8	3.09 %
TOTAL			58.2	100.00 %

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Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Freight	5	0.2	73.59	100.00 %
TOTAL			73.59	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)	7	0.2	113.66	97.68 %
End of life (adhesive)	6	1.99 · 10 ⁻³	2.69	2.32 %
TOTAL			116.36	100.00 %

Contact us

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