

greenly

2025-09-13

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

3.064.751 (sold in CH)

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 "500 page(s) of A4 paper for 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>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.</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 piece of paper from raw material extraction to disposal options for each material, which is the cradle-to-grave perspective.

Exclusions

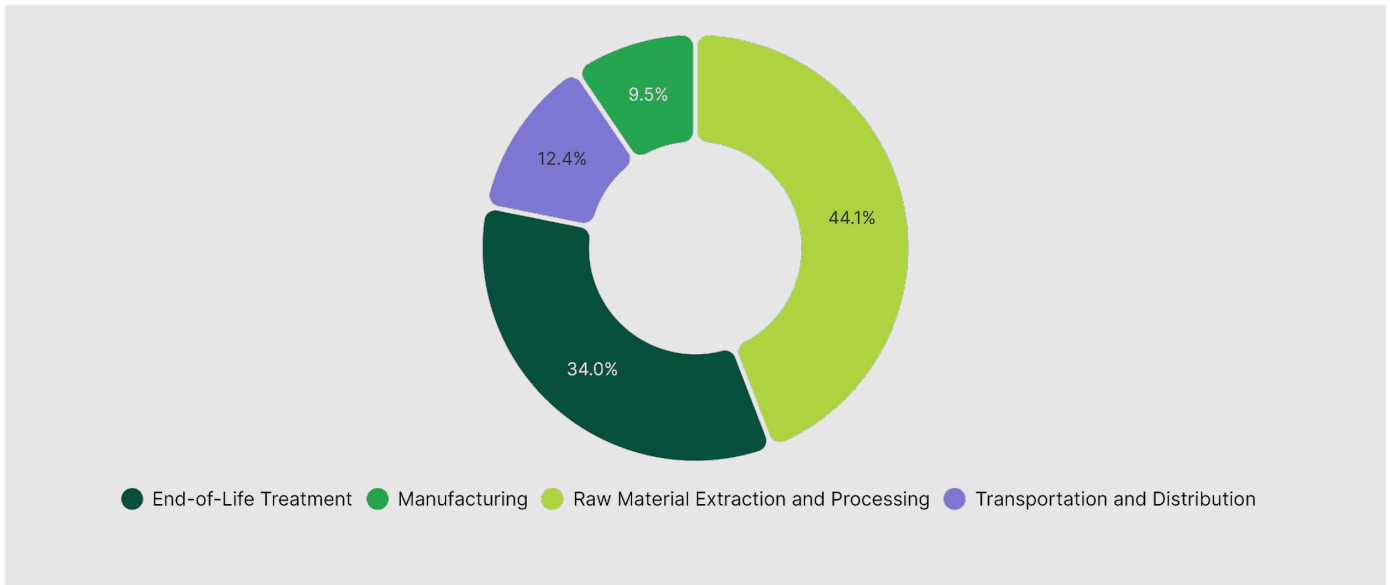
The impact of secondary packaging impact and writing utensils are excluded from this assessment.

02

Results

3.064.751 (sold in CH)

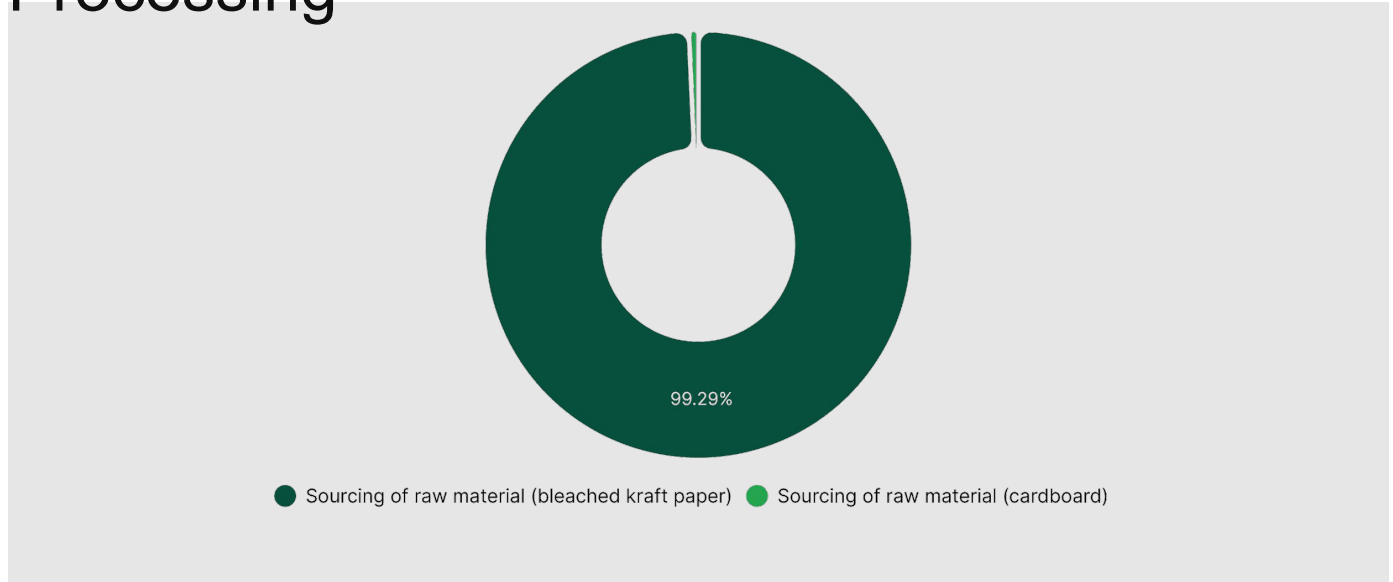
Climate Change



Step	Impact (kg CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	1.83	44.14 %
End-of-Life Treatment	1.41	34.00 %
Transportation and Distribution	0.51	12.37 %
Manufacturing	0.39	9.48 %
TOTAL	4.15	100.00 %

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Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Sourcing of raw material (bleached kraft paper)	1	3.65	1.82	99.29 %
Sourcing of raw material (cardboard)	2	0.02	0.01	0.71 %

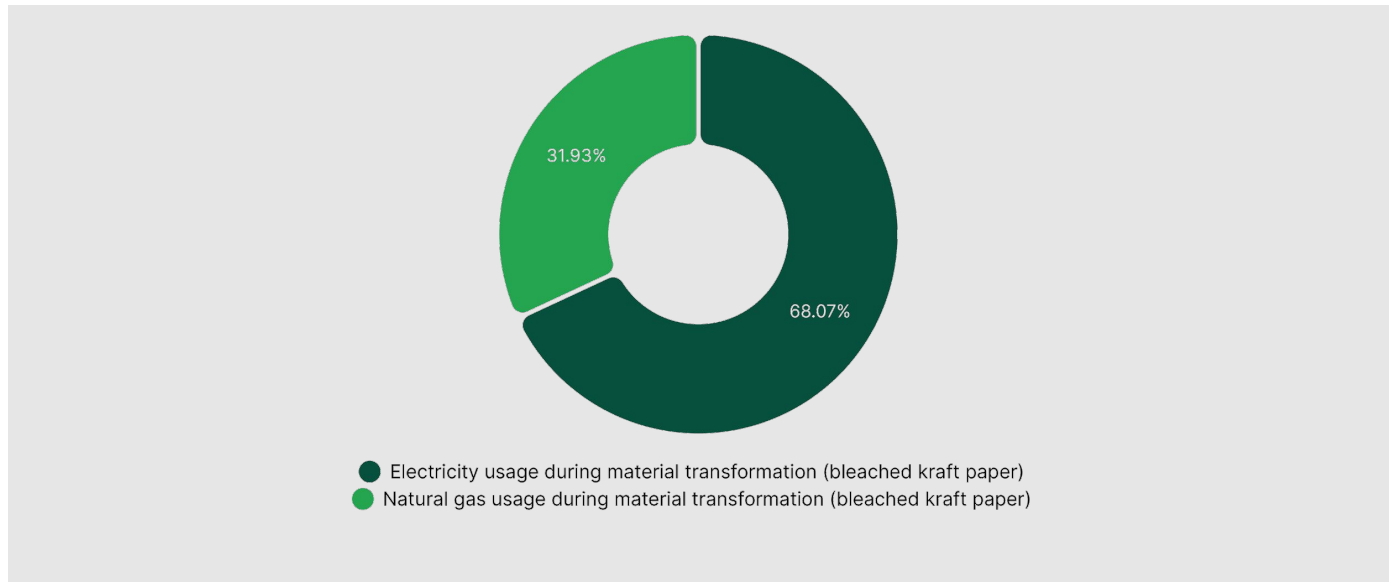
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TOTAL			1.83	100.00 %
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3.064.751 (sold in CH)

Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (bleached kraft paper)	4	1.29	267.95	68.07 %
Natural gas usage during material transformation (bleached kraft paper)	3	0.69	125.66	31.93 %

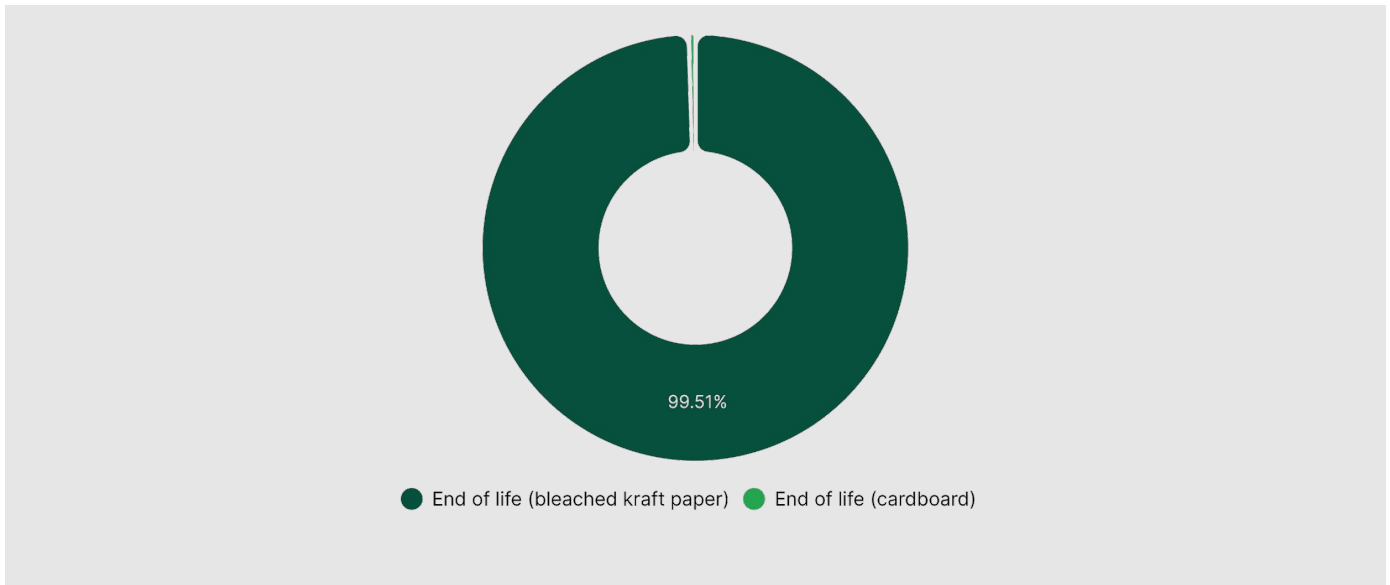
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TOTAL			393.61	100.00 %
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3.064.751 (sold in CH)

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
End of life (bleached kraft paper)	6	2.44	1.4	99.51 %
End of life (cardboard)	6	0.01	6.91 · 10 ⁻³	0.49 %
TOTAL			1.41	100.00 %

Contact us

Alexis Normand CEO

www.greenly.earth