greenly

2025-09-16

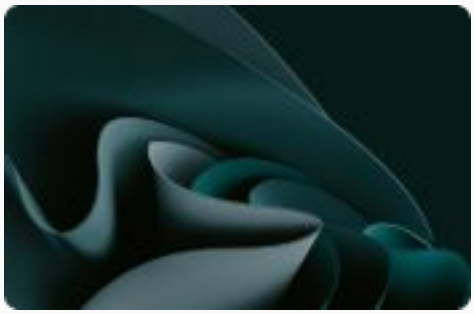
Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

3.064.751 (sold in WI)

Summary



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 “500 page(s) of A4 paper for 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	Manufacturing Processes and associated loss percentages are assumed based on materials in the product. The electricity is based on the average in the country of manufacturing. Transportation is based on the common routes between the country of manufacturing and the country of sale. No replacements during the lifetime, therefore there are no emissions corresponding to the usage phase. The End of Life is based on the average waste management process of the materials in the product.

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

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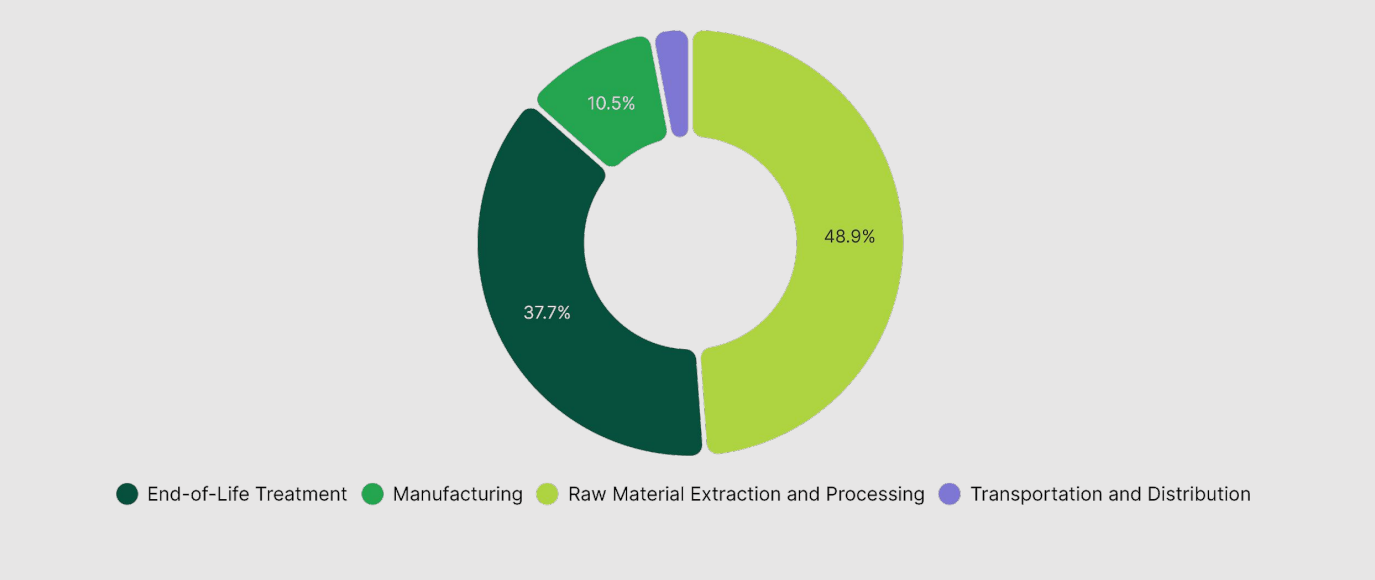
Climate Change



Step	Impact (kg CO_2 eq)	Percentage (%)
Raw Material Extraction and Processing	1.83	48.88 %
End-of-Life Treatment	1.41	37.65 %
Manufacturing	0.39	10.50 %
Transportation and Distribution	0.11	2.96 %
TOTAL	3.75	100.00 %

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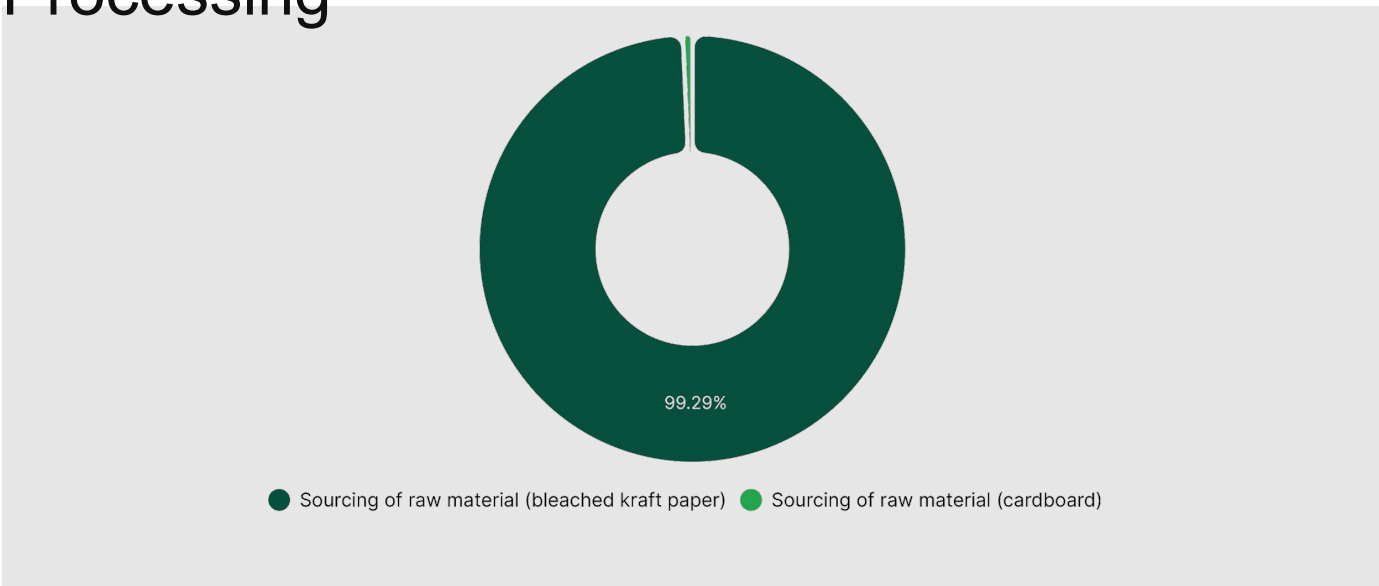
Climate Change - Raw Material Extraction and Processing



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 %
TOTAL			1.83	100.00 %

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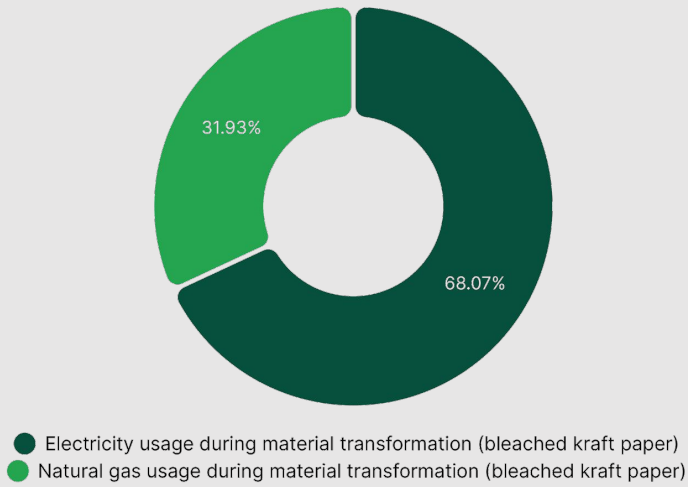
Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (g CO_2 eq)	Percentage (%)
Electricity usage during material transformation (bleached kraft paper)	3	1.29	267.95	68.07 %
Natural gas usage during material transformation (bleached kraft paper)	4	0.69	125.66	31.93 %
TOTAL			393.61	100.00 %

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Climate Change - Transportation and Distribution

Activity	Emission Factor Num	Quantity	Impact (g CO_2 eq)	Percentage (%)
Freight	5	2.45	111.06	100.00 %
TOTAL			111.06	100.00 %

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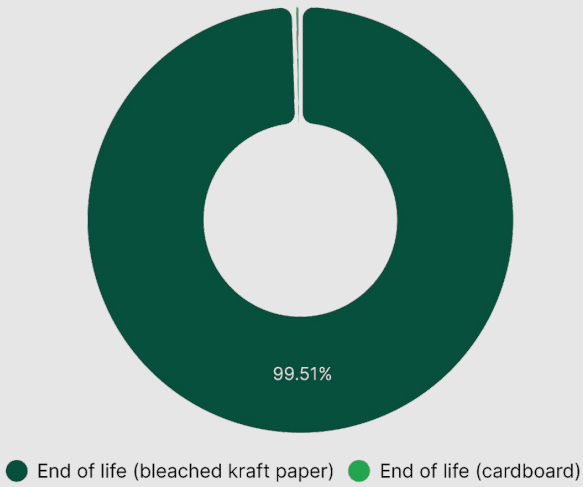
Climate Change - End-of-Life Treatment



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

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