

**greenly**

2025-09-17

Lyreco LCA

# Life Cycle Assessment

*The methodology in this report is based on ISO 14040*

2515489 (sold in WI)

# Summary



**01** | Methodology



**02** | Results

# 01

## Methodology

# Environmental Impact Assessment

<p><b>Functional unit</b></p>	<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). The functional unit of this analysis is "6 set(s) of bound pages of paper for the purpose of writing".</p>
<p><b>Impact Indicator</b></p>	<p>The impact is measured through the "IPCC 2013 GWP 100a" method.</p>
<p><b>Electricity impact calculation method</b></p>	<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>
<p><b>Hypothesis</b></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.

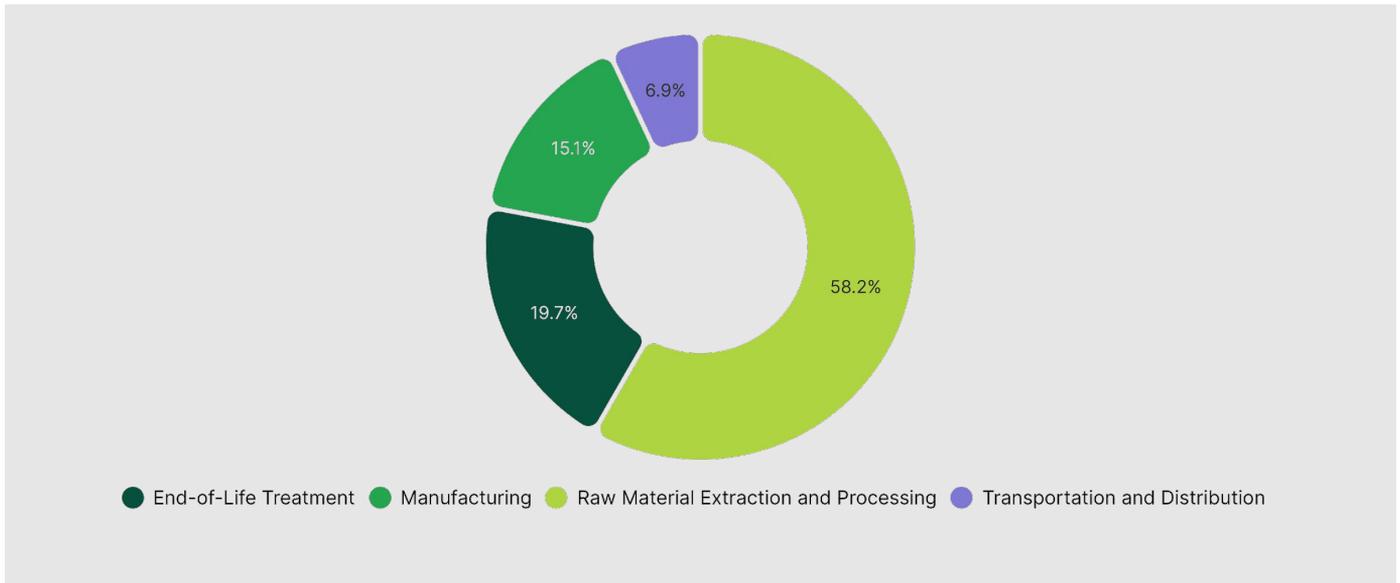
## Exclusions

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

# 02

## Results

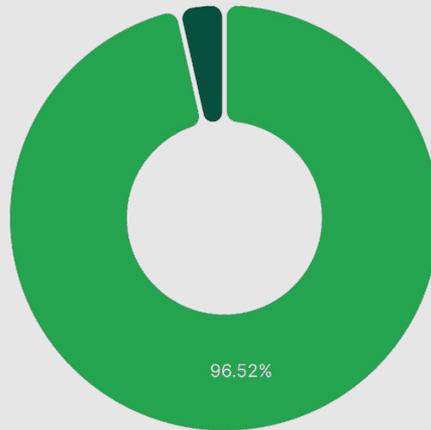
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**Climate Change**



Step	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Raw Material Extraction and Processing	422.17	58.25 %
End-of-Life Treatment	143.13	19.75 %
Manufacturing	109.19	15.07 %
Transportation and Distribution	50.31	6.94 %
<b>TOTAL</b>	<b>724.8</b>	<b>100.00 %</b>

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# Climate Change - Raw Material Extraction and Processing



● Sourcing of raw material (adhesive) ● Sourcing of raw material (coloured kraft paper)

Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> 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 <sup>-3</sup>	14.68	3.48 %

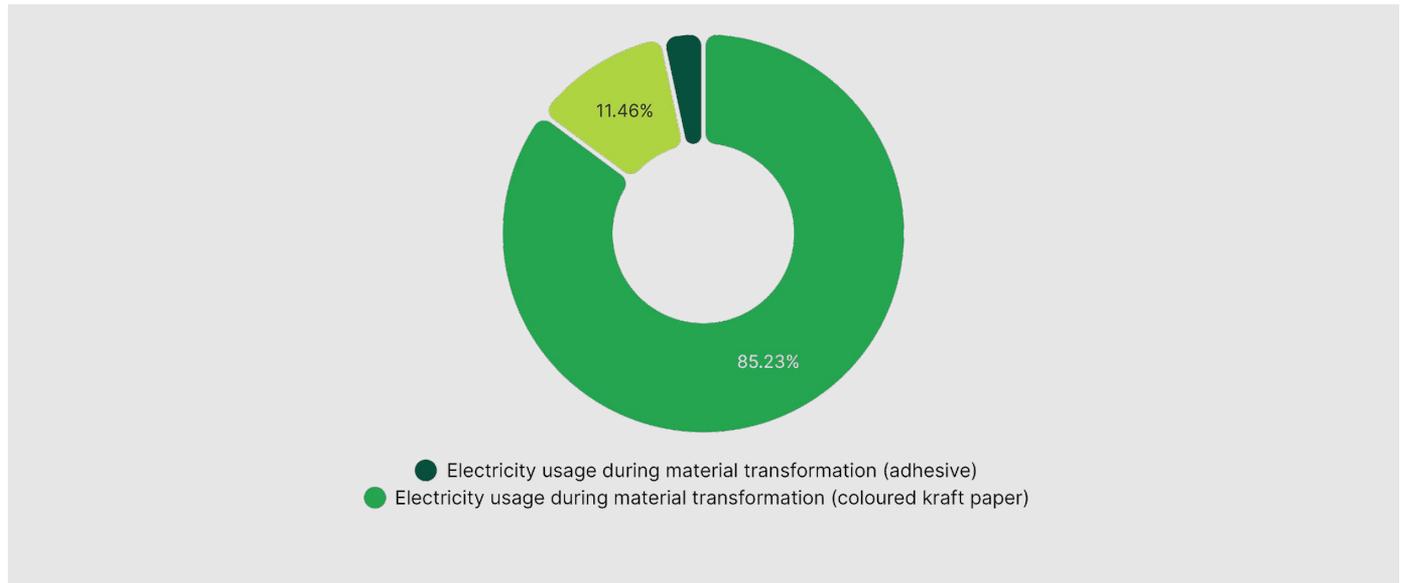
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TOTAL			422.17	100.00 %
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# Climate Change - Manufacturing

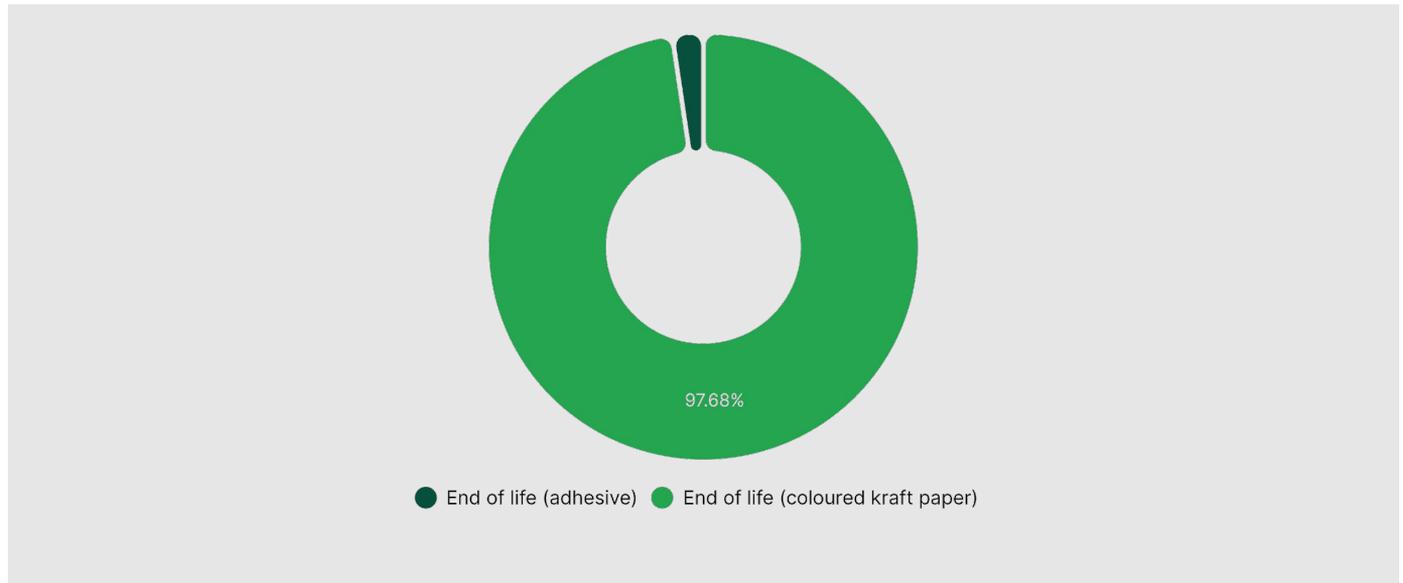


Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Electricity usage during material transformation (coloured kraft paper)	4	0.13	93.06	85.23 %
Natural gas usage during material transformation (coloured kraft paper)	3	0.07	12.51	11.46 %
Electricity usage during material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



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# Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
End of life (coloured kraft paper)	7	0.24	139.82	97.68 %
End of life (adhesive)	6	2.44 · 10 <sup>-3</sup>	3.31	2.32 %
TOTAL			143.13	100.00 %

# Contact us

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