

**greenly**

2025-09-17

Lyreco LCA

# Life Cycle Assessment

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

19210628 (sold in PL)

# Summary



**01** | Methodology



**02** | Results

# 01

## Methodology

# Environmental Impact Assessment

<b>Functional unit</b>	<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>
<b>Impact Indicator</b>	<p>The impact is measured through the "IPCC 2013 GWP 100a" method.</p>
<b>Electricity impact calculation method</b>	<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>
<b>Hypothesis</b>	

# 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

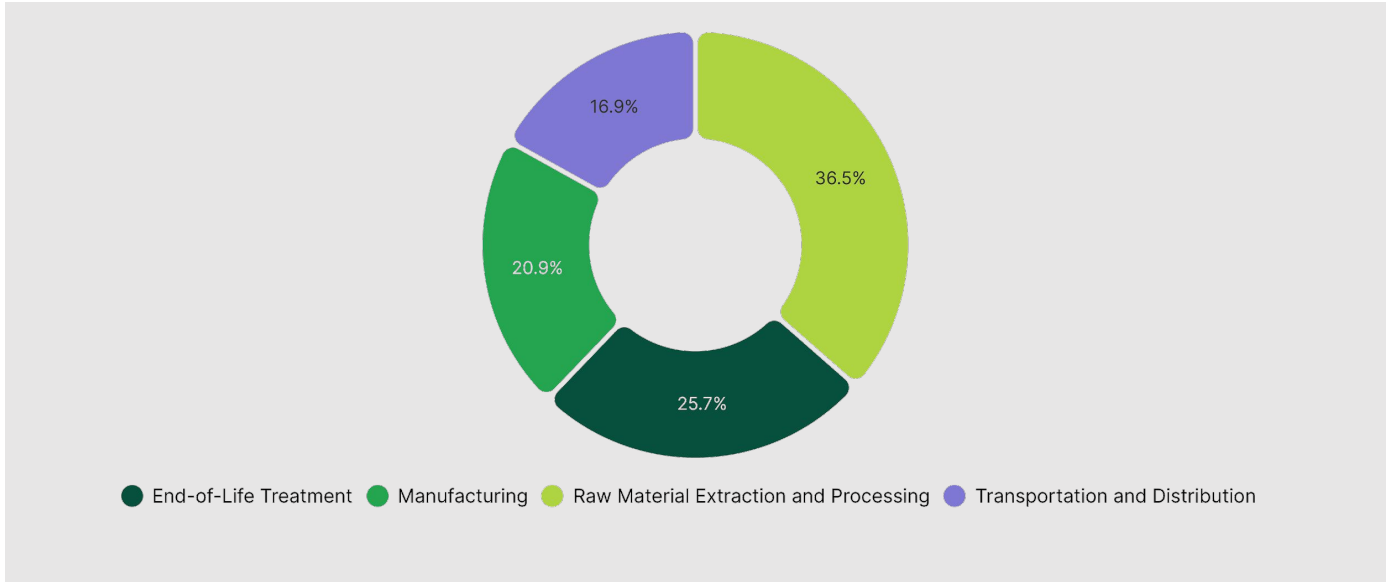
The impact of secondary packaging and writing utensils are excluded from this assessment.

# 02

## Results

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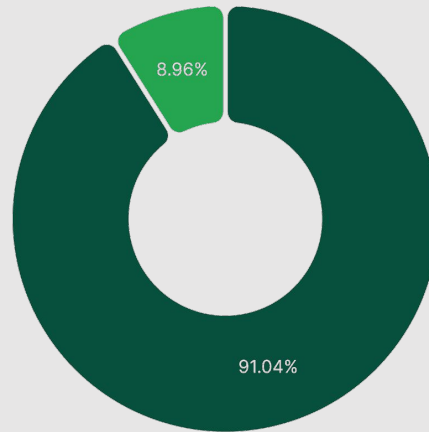
# Climate Change



Step	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Raw Material Extraction and Processing	163.25	36.46 %
End-of-Life Treatment	115.13	25.71 %
Manufacturing	93.59	20.90 %
Transportation and Distribution	75.82	16.93 %
<b>TOTAL</b>	<b>447.78</b>	<b>100.00 %</b>

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# Climate Change - Raw Material Extraction and Processing



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

Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Sourcing of raw material (bleached kraft paper)	1	0.3	148.62	91.04 %
Sourcing of raw material (steel)	2	6.77 · 10 <sup>-3</sup>	14.63	8.96 %

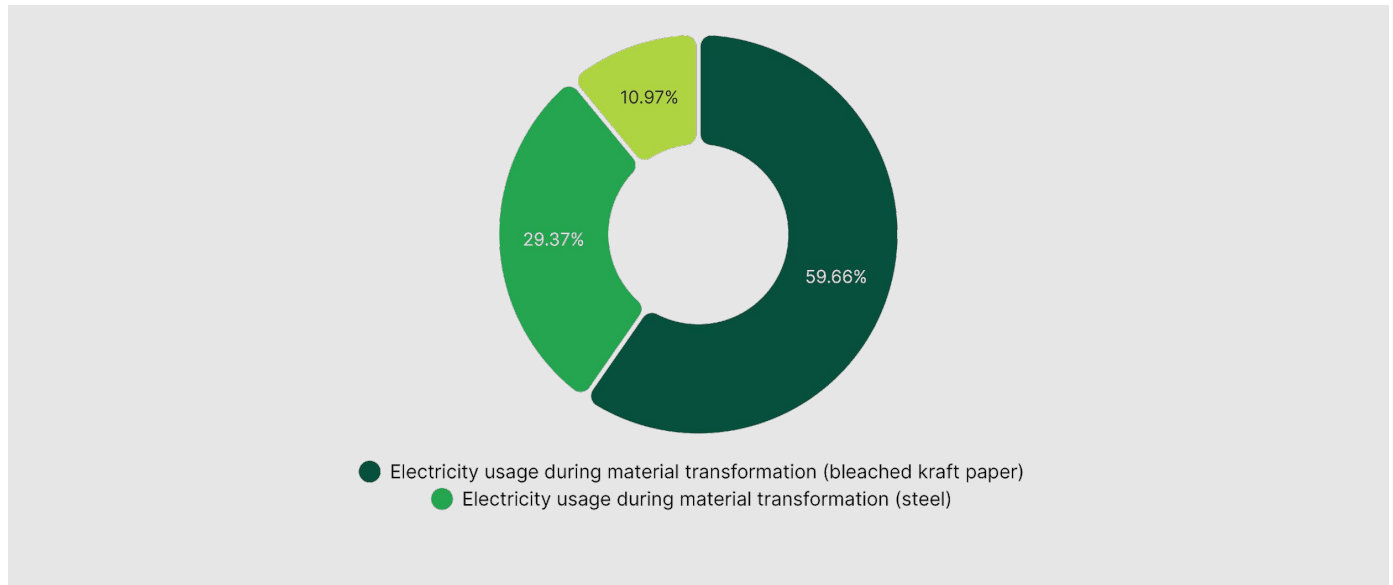
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TOTAL			163.25	100.00 %
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# Climate Change - Manufacturing

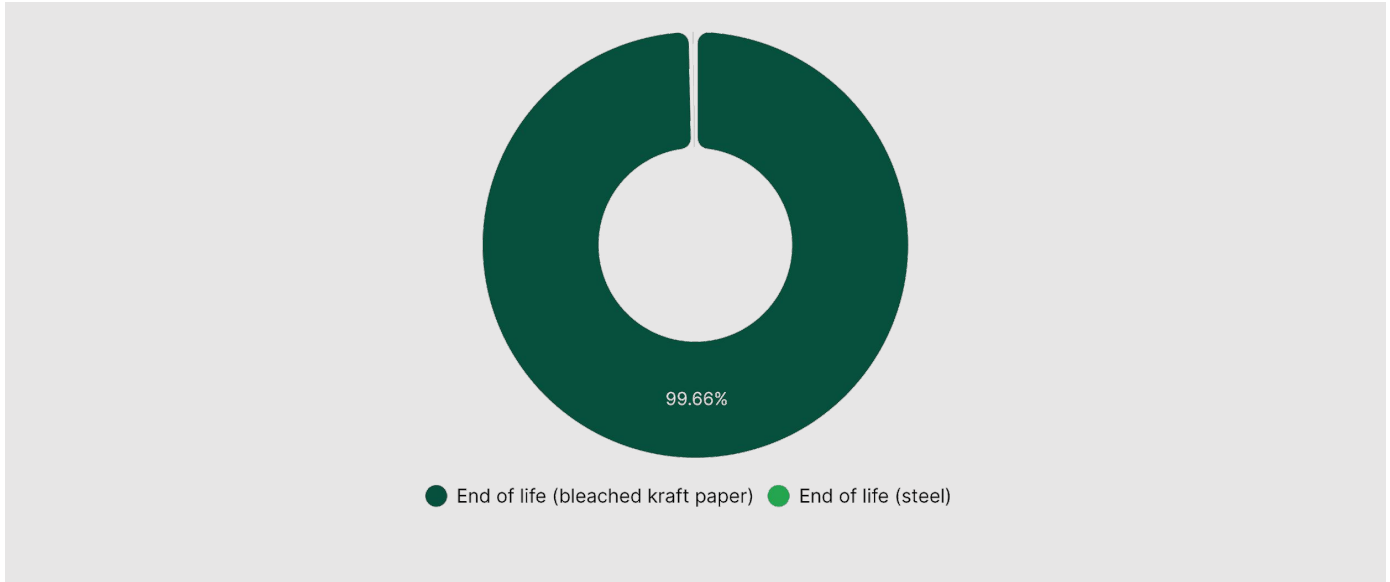


Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Electricity usage during material transformation (bleached kraft paper)	3	0.11	55.84	59.66 %
Electricity usage during material transformation (steel)	3	0.05	27.48	29.37 %
Natural gas usage during material transformation (bleached kraft paper)	4	0.06	10.27	10.97 %
TOTAL			93.59	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 (bleached kraft paper)	7	0.2	114.74	99.66 %
End of life (steel)	6	6.15 · 10 <sup>-3</sup>	0.39	0.34 %
TOTAL			115.13	100.00 %

# Contact us

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