

**greenly**

2025-09-17

Lyreco LCA

# Life Cycle Assessment

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

1878954 (sold in FI)

# 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 "1 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

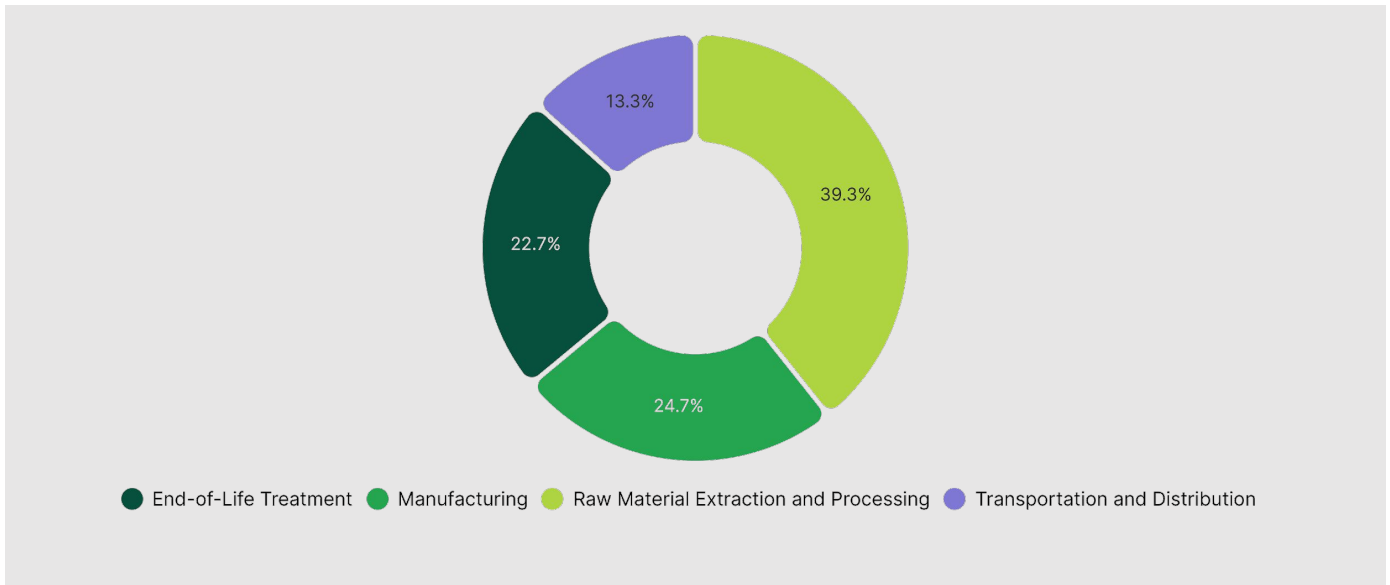
The impact of secondary packaging and writing utensils are excluded from this assessment.

# 02

## Results

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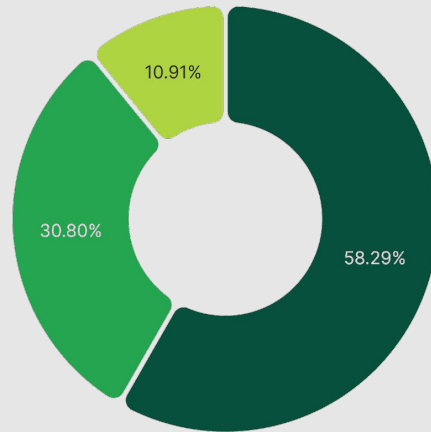
# Climate Change



Step	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Raw Material Extraction and Processing	0.69	39.30 %
Manufacturing	0.43	24.68 %
End-of-Life Treatment	0.4	22.68 %
Transportation and Distribution	0.23	13.34 %
<b>TOTAL</b>	<b>1.75</b>	<b>100.00 %</b>

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# Climate Change - Raw Material Extraction and Processing

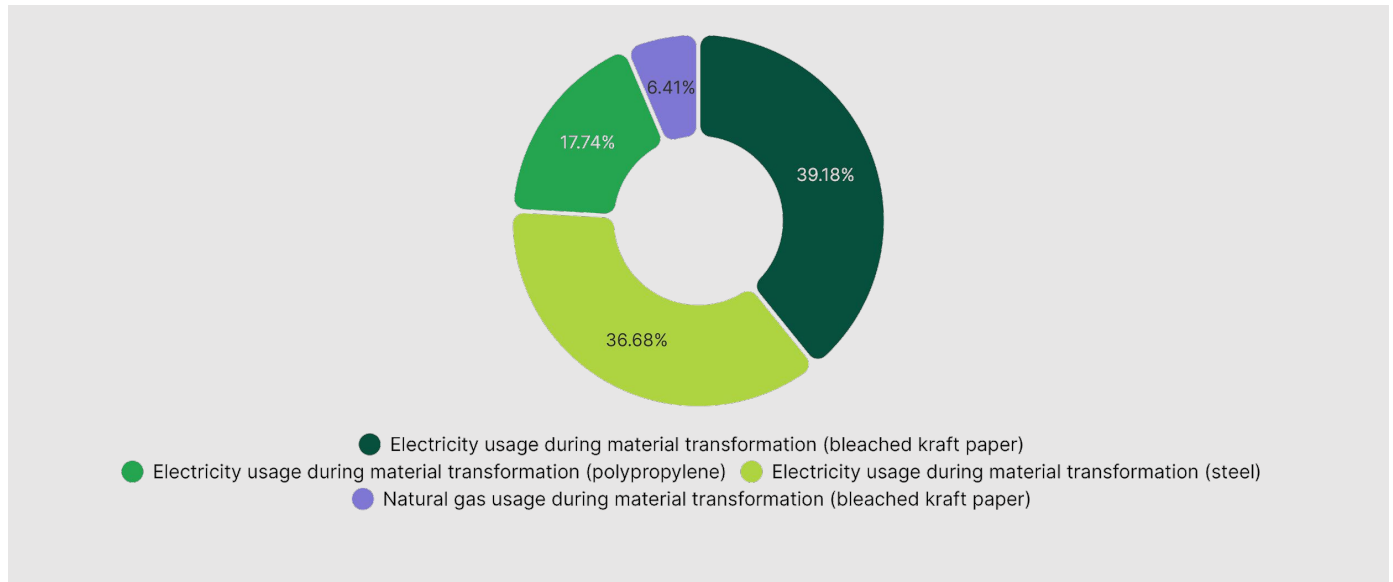


● Sourcing of raw material (bleached kraft paper) ● Sourcing of raw material (polypropylene)

Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Sourcing of raw material (bleached kraft paper)	1	0.81	401.75	58.29 %
Sourcing of raw material (polypropylene)	2	0.07	212.32	30.80 %
Sourcing of raw material (steel)	3	0.03	75.21	10.91 %
TOTAL			689.28	100.00 %

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# Climate Change - Manufacturing

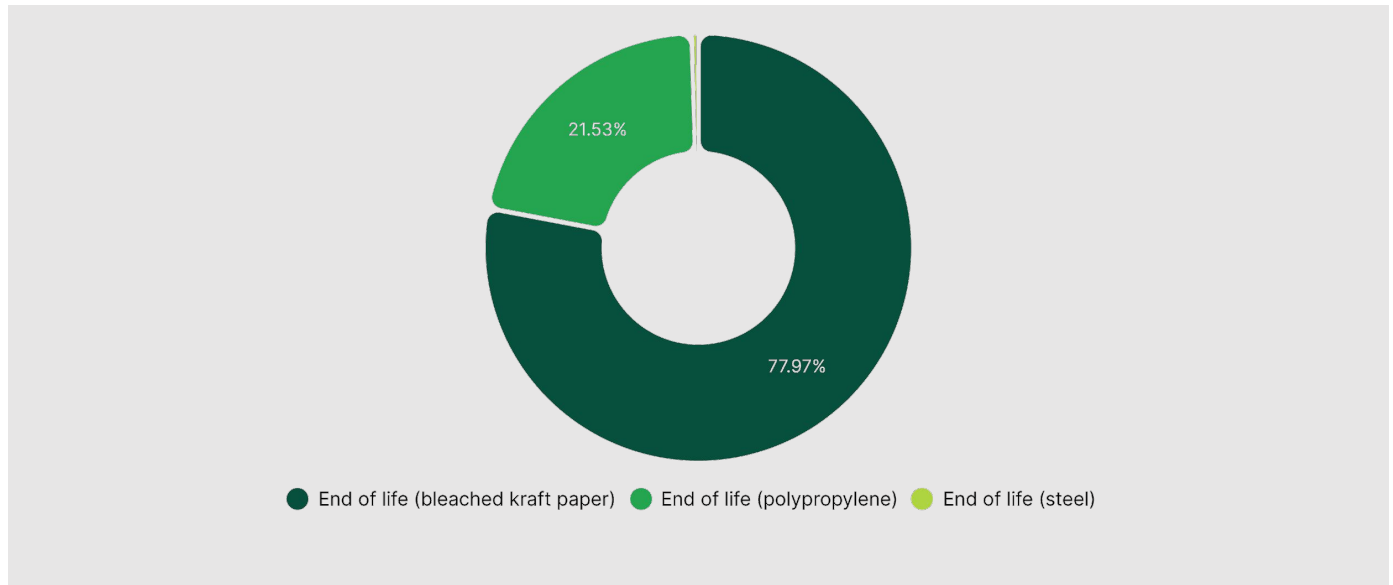


Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Electricity usage during material transformation (bleached kraft paper)	4	0.29	169.61	39.18 %
Electricity usage during material transformation (steel)	4	0.27	158.77	36.68 %
Electricity usage during material transformation (polypropylene)	4	0.13	76.78	17.74 %
Natural gas usage during material transformation (bleached kraft paper)	5	0.15	27.76	6.41 %
TOTAL			432.92	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	0.54	310.16	77.97 %
End of life (polypropylene)	8	0.06	85.64	21.53 %
End of life (steel)	9	0.03	1.99	0.50 %
TOTAL			397.79	100.00 %

# Contact us

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