

**greenly**

2025-09-17

Lyreco LCA

# Life Cycle Assessment

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

2818475 (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 "4 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

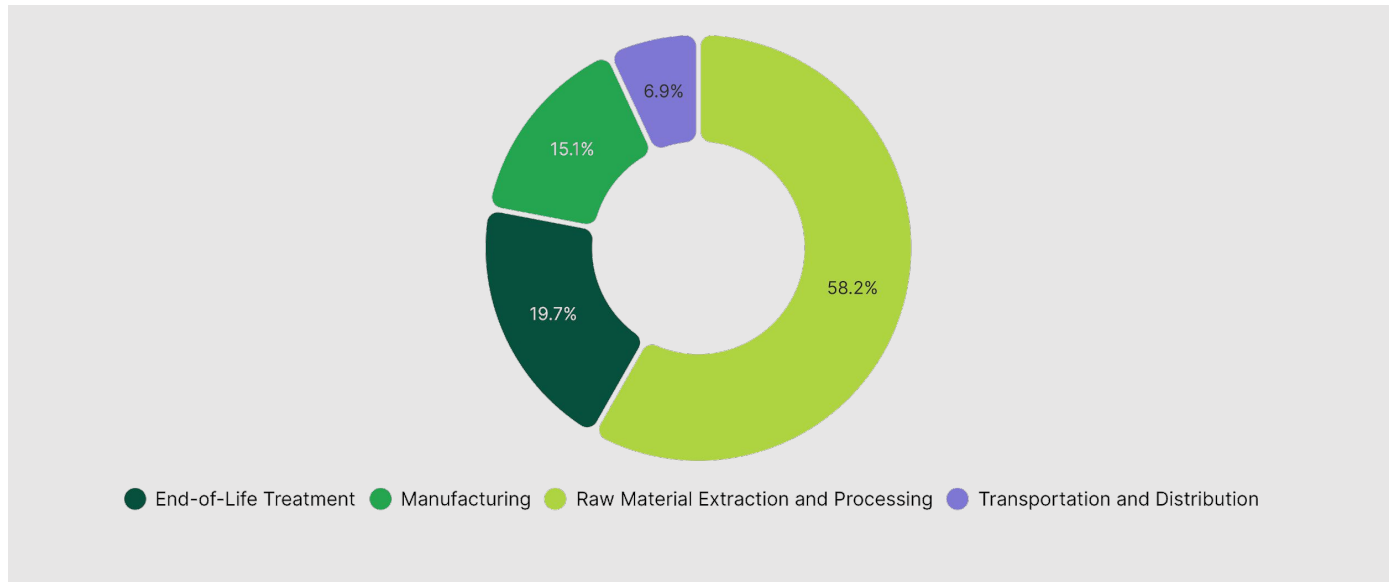
The impact of secondary packaging and writing utensils are excluded from this assessment.

# 02

## Results

2818475 (sold in WI)

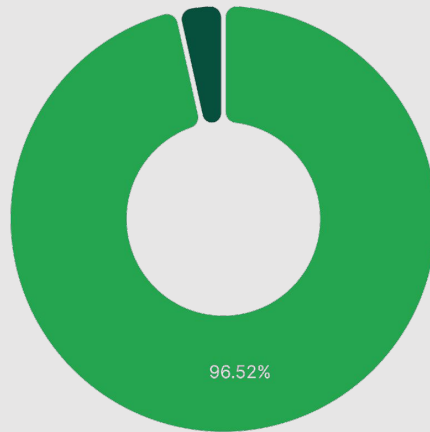
# Climate Change



Step	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Raw Material Extraction and Processing	32.55	58.25 %
End-of-Life Treatment	11.03	19.75 %
Manufacturing	8.42	15.07 %
Transportation and Distribution	3.88	6.94 %
<b>TOTAL</b>	<b>55.88</b>	<b>100.00 %</b>

2818475 (sold in WI)

# 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	0.03	31.41	96.52 %
Sourcing of raw material (adhesive)	1	2.07 · 10 <sup>-4</sup>	1.13	3.48 %

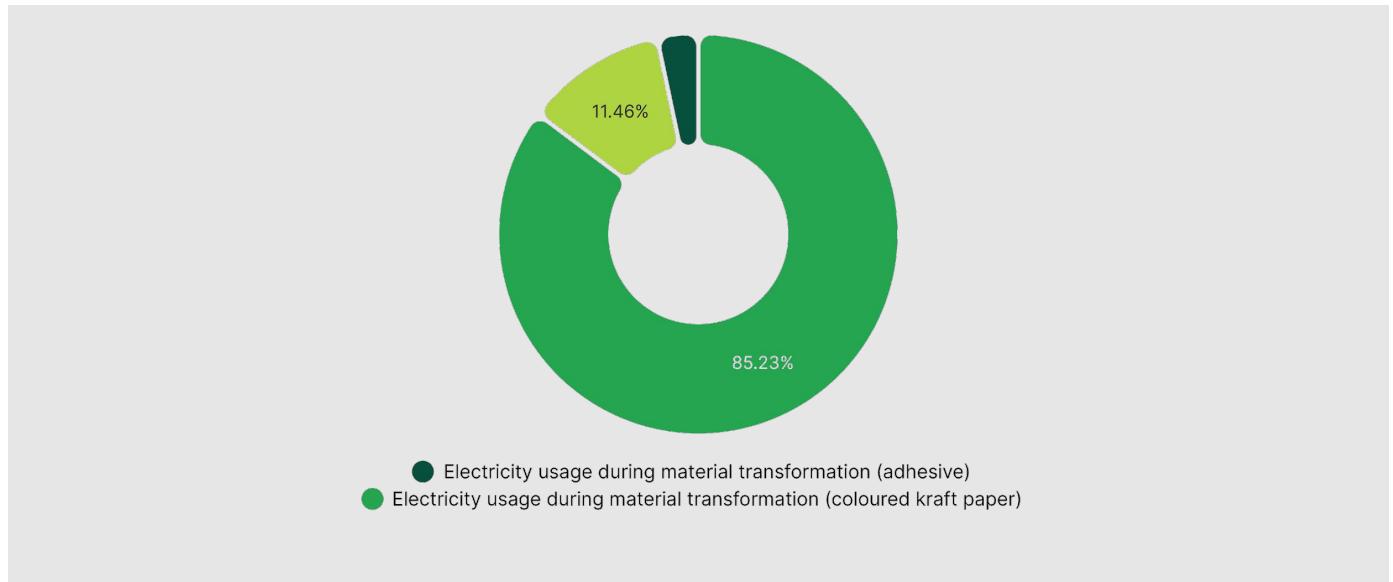
--	--	--	--	--

--	--	--	--	--

TOTAL			32.55	100.00 %
-------	--	--	-------	----------

2818475 (sold in WI)

# Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Electricity usage during material transformation (coloured kraft paper)	3	$9.92 \cdot 10^{-3}$	7.17	85.23 %
Natural gas usage during material transformation (coloured kraft paper)	4	$5.32 \cdot 10^{-3}$	0.96	11.46 %
Electricity usage during material transformation (adhesive)	3	$3.85 \cdot 10^{-4}$	0.28	3.31 %
TOTAL			8.42	100.00 %

2818475 (sold in WI)

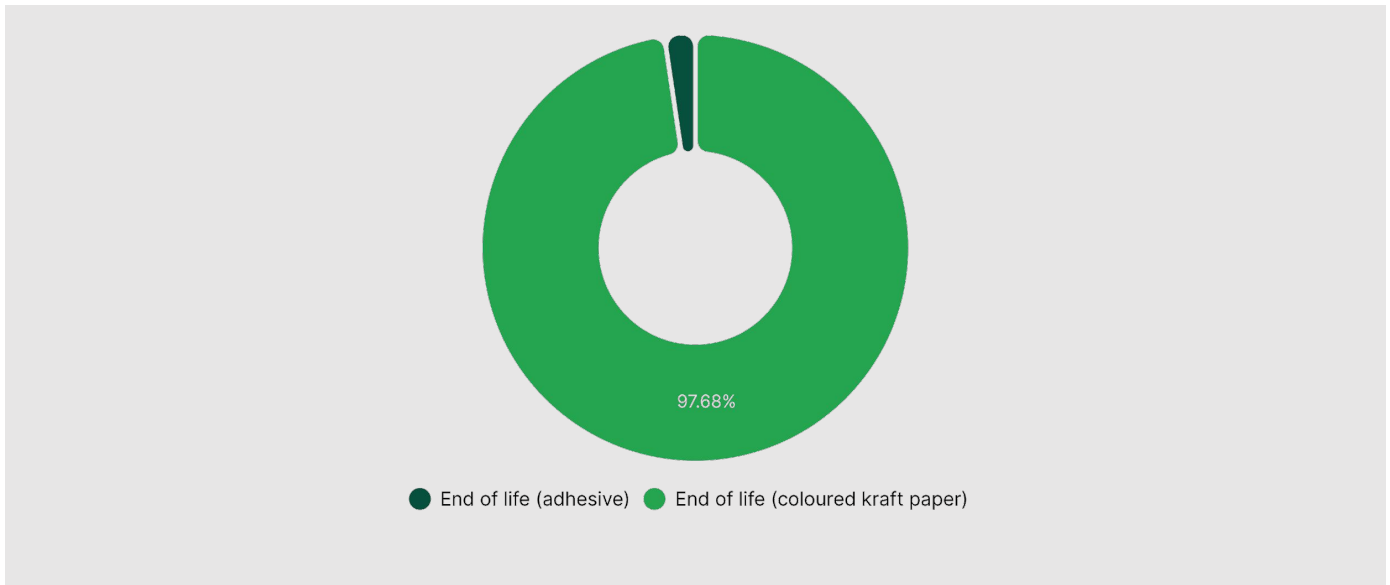
# Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Freight	5	0.02	3.88	100.00 %
TOTAL			3.88	100.00 %

2818475 (sold in WI)

# 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	0.02	10.78	97.68 %
End of life (adhesive)	6	1.88 · 10 <sup>-4</sup>	0.26	2.32 %
TOTAL			11.03	100.00 %

# Contact us

Alexis Normand CEO

[www.greenly.earth](http://www.greenly.earth)