

greenly

2025-09-16

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

5.931.179 (sold in WI)

Summary



01 | Methodology



02 | Results

01

Methodology

Environmental Impact Assessment

| | |
|--|---|
| Functional unit | <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 "500 page(s) of A4 paper for writing".</p> |
| Impact Indicator | <p>The impact is measured through the "IPCC 2013 GWP 100a" method.</p> |
| Electricity impact calculation method | <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> |
| Hypothesis | <p>Manufacturing Processes and associated loss percentages are assumed based on materials in the product.</p> <p>The electricity is based on the average in the country of manufacturing.</p> <p>Transportation is based on the common routes between the country of manufacturing and the country of sale.</p> <p>No replacements during the lifetime, therefore there are no emissions corresponding to the usage phase.</p> <p>The End of Life is based on the average waste management process of the materials in the product.</p> |

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

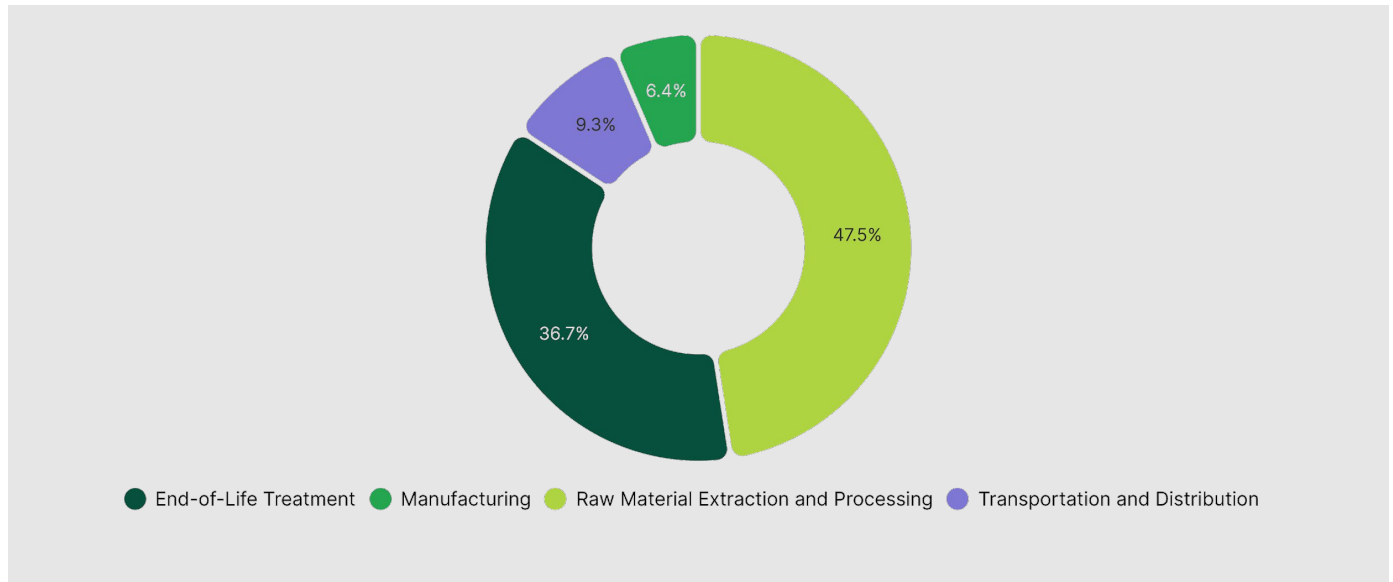
The impact of secondary packaging impact and writing utensils are excluded from this assessment.

02

Results

5.931.179 (sold in WI)

Climate Change



| Step | Impact (kg CO ₂ eq) | Percentage (%) |
|--|--------------------------------|----------------|
| Raw Material Extraction and Processing | 3.74 | 47.55 % |
| End-of-Life Treatment | 2.89 | 36.71 % |
| Transportation and Distribution | 0.73 | 9.31 % |
| Manufacturing | 0.51 | 6.44 % |
| TOTAL | 7.86 | 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 | 7.51 | 3.74 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 3.74 | 100.00 % |

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Climate Change - Manufacturing



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|----------|-------------------------------|----------------|
| Natural gas usage during material transformation (bleached kraft paper) | 3 | 1.43 | 258.27 | 51.03 % |
| Electricity usage during material transformation (bleached kraft paper) | 2 | 2.66 | 247.86 | 48.97 % |
| TOTAL | | | 506.12 | 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) | 5 | 5.01 | 2.89 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 2.89 | 100.00 % |

Contact us

Alexis Normand CEO

www.greenly.earth