

greenly

2025-09-18

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

17231092 (sold in PL)

Summary



01 | Methodology



02 | Results

01

Methodology

Environmental Impact Assessment

| | |
|---|---|
| <p>Functional unit</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 "20 page(s) of A4 paper for writing".</p> |
| <p>Impact Indicator</p> | <p>The impact is measured through the "IPCC 2013 GWP 100a" method.</p> |
| <p>Electricity impact calculation method</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>Hypothesis</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

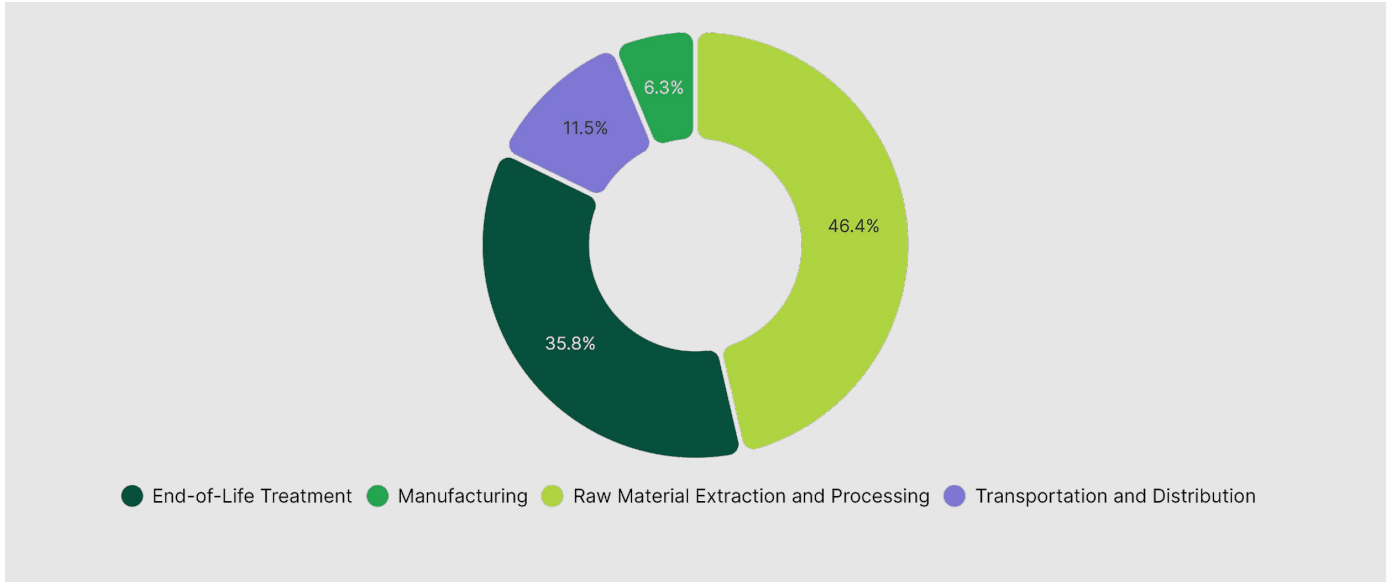
The impact of secondary packaging impact and writing utensils are excluded from this assessment.

02

Results

17231092 (sold in PL)

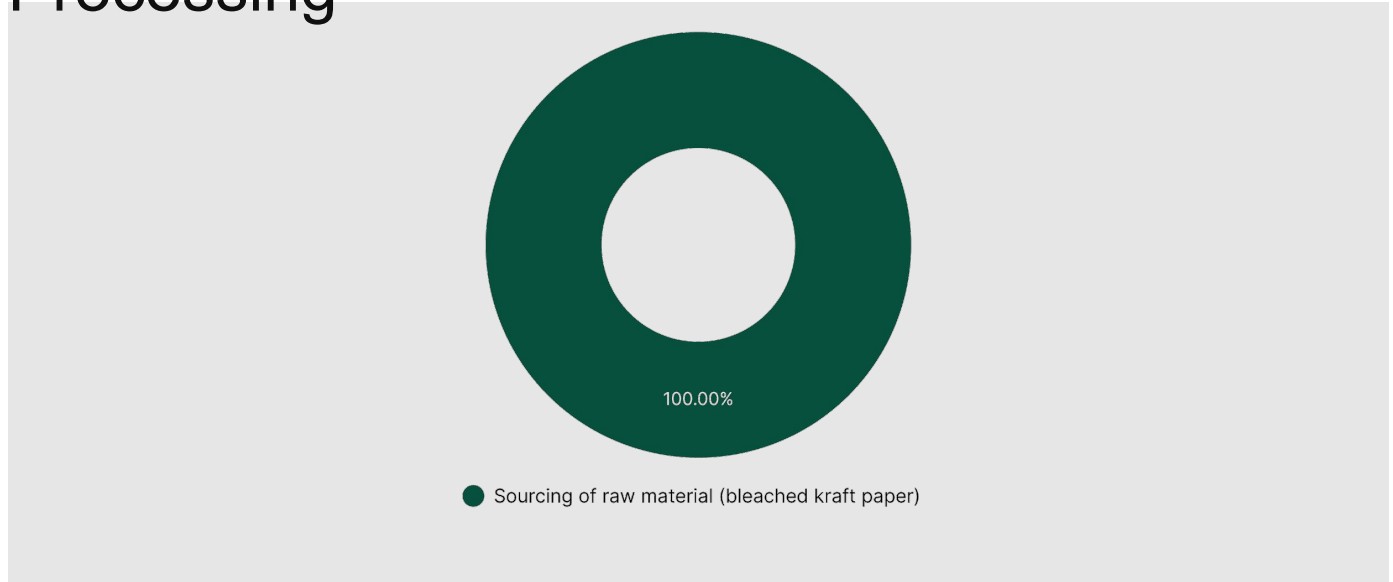
Climate Change



| Step | Impact (kg CO ₂ eq) | Percentage (%) |
|--|--------------------------------|----------------|
| Raw Material Extraction and Processing | 0.74 | 46.40 % |
| End-of-Life Treatment | 0.57 | 35.82 % |
| Transportation and Distribution | 0.18 | 11.50 % |
| Manufacturing | 0.1 | 6.28 % |
| TOTAL | 1.6 | 100.00 % |

17231092 (sold in PL)

Climate Change - Raw Material Extraction and Processing



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|----------|-------------------------------|----------------|
| Sourcing of raw material (bleached kraft paper) | 1 | 1.49 | 744.18 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 744.18 | 100.00 % |

17231092 (sold in PL)

Climate Change - Manufacturing



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|----------|-------------------------------|----------------|
| Natural gas usage during material transformation (bleached kraft paper) | 3 | 0.28 | 51.41 | 51.03 % |
| Electricity usage during material transformation (bleached kraft paper) | 2 | 0.53 | 49.34 | 48.97 % |
| TOTAL | | | 100.75 | 100.00 % |

17231092 (sold in PL)

Climate Change - Transportation and Distribution



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|----------|---------------------|----------|-------------------------------|----------------|
| Freight | 4 | 1 | 184.53 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 184.53 | 100.00 % |

17231092 (sold in PL)

Climate Change - End-of-Life Treatment



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|------------------------------------|---------------------|----------|-------------------------------|----------------|
| End of life (bleached kraft paper) | 5 | 1 | 574.52 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 574.52 | 100.00 % |

Contact us

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