

greenly

2025-09-17

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

14138693 (sold in CH)

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 "5 set(s) of bound pages of paper for the purpose of 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 notebook from raw material extraction to disposal options for each material, which is the cradle-to-grave perspective.

Exclusions

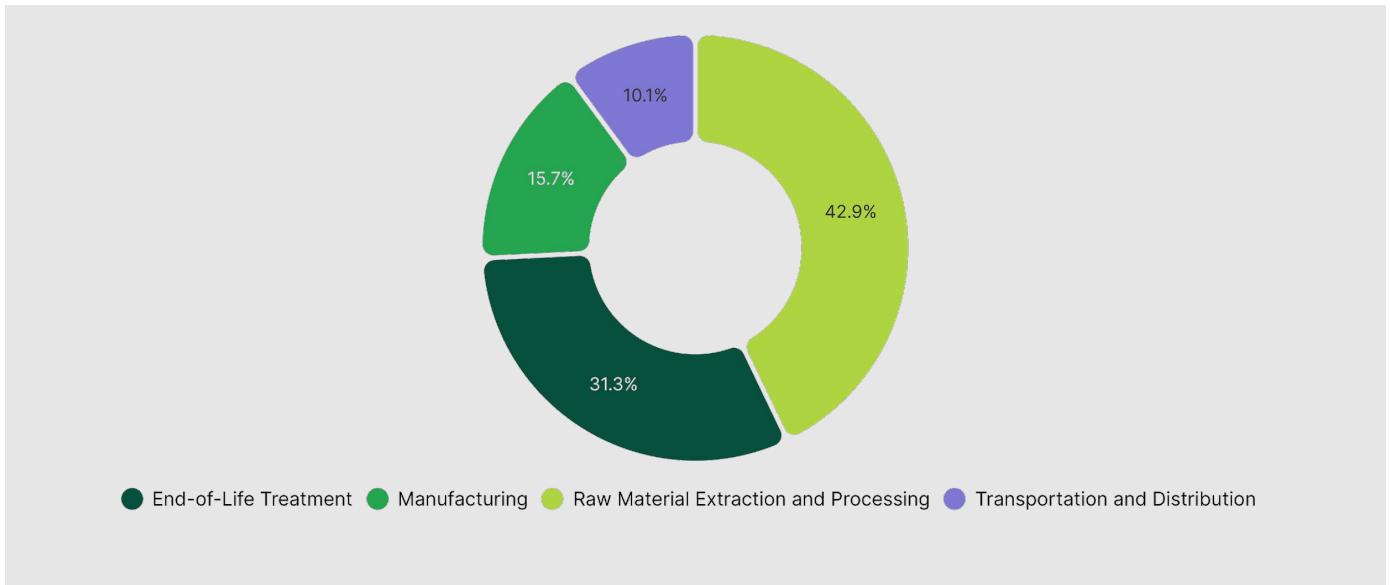
The impact of secondary packaging and writing utensils are excluded from this assessment.

02

Results

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Climate Change



| Step | Impact (g CO ₂ eq) | Percentage (%) |
|--|-------------------------------|-----------------|
| Raw Material Extraction and Processing | 295.35 | 42.88 % |
| End-of-Life Treatment | 215.91 | 31.35 % |
| Manufacturing | 108 | 15.68 % |
| Transportation and Distribution | 69.56 | 10.10 % |
| TOTAL | 688.83 | 100.00 % |

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Climate Change - Raw Material Extraction and Processing



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

| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|-------------------------|-------------------------------|----------------|
| Sourcing of raw material (bleached kraft paper) | 1 | 0.55 | 273.2 | 92.50 % |
| Sourcing of raw material (adhesive) | 2 | 4.06 · 10 ⁻³ | 22.15 | 7.50 % |

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|-------|--|--|--------|----------|
| TOTAL | | | 295.35 | 100.00 % |
|-------|--|--|--------|----------|

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Climate Change - Manufacturing



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|-------------------------|-------------------------------|----------------|
| Electricity usage during material transformation (bleached kraft paper) | 3 | 0.19 | 85.79 | 79.44 % |
| Natural gas usage during material transformation (bleached kraft paper) | 4 | 0.1 | 18.87 | 17.48 % |
| Electricity usage during material transformation (adhesive) | 3 | 7.54 · 10 ⁻³ | 3.33 | 3.09 % |
| TOTAL | | | 108 | 100.00 % |

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Climate Change - Transportation and Distribution



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|----------|---------------------|----------|-------------------------------|----------------|
| Freight | 5 | 0.37 | 69.56 | 100.00 % |
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| | | | | |
| TOTAL | | | 69.56 | 100.00 % |

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Climate Change - End-of-Life Treatment



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|------------------------------------|---------------------|-------------------------|-------------------------------|----------------|
| End of life (bleached kraft paper) | 7 | 0.37 | 210.91 | 97.68 % |
| End of life (adhesive) | 6 | 3.69 · 10 ⁻³ | 5 | 2.32 % |
| TOTAL | | | 215.91 | 100.00 % |

Contact us

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