

greenly

2025-09-17

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

5846197 (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 "12 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

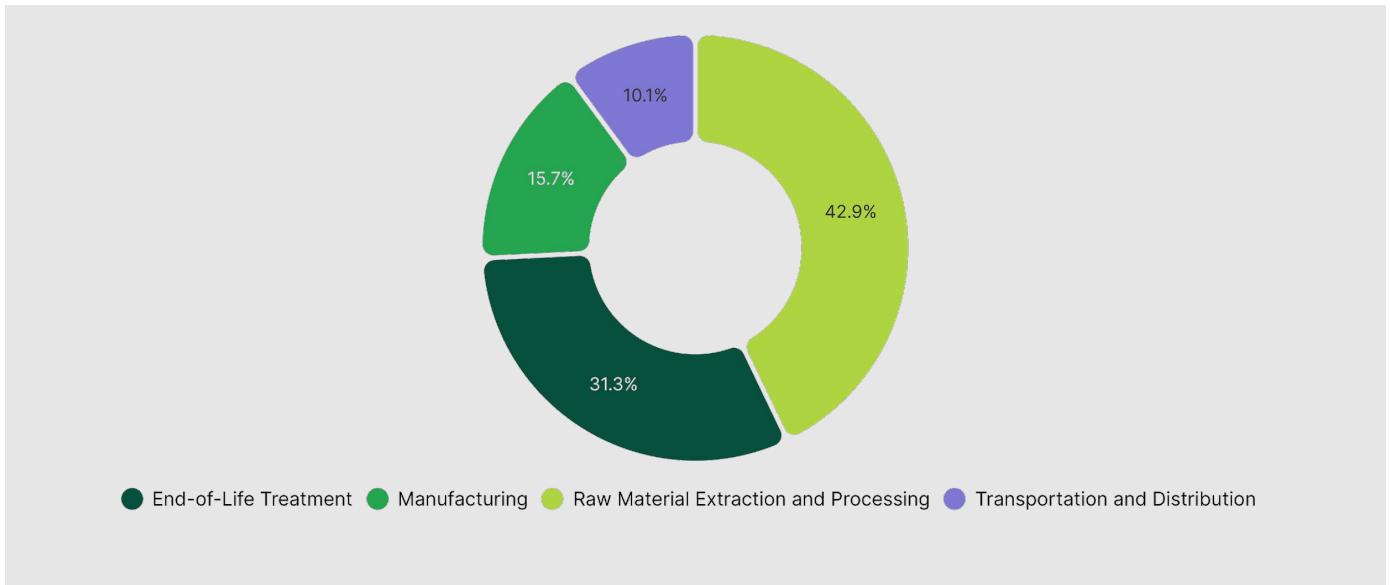
The impact of secondary packaging and writing utensils are excluded from this assessment.

02

Results

5846197 (sold in CH)

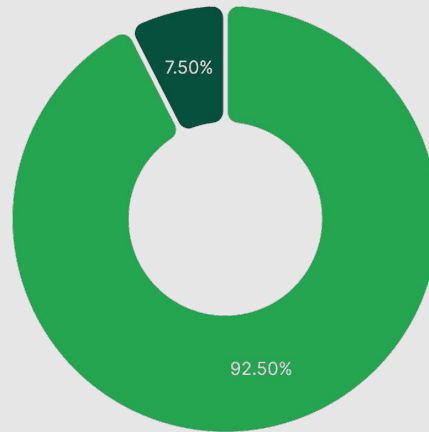
Climate Change



| Step | Impact (g CO ₂ eq) | Percentage (%) |
|--|-------------------------------|-----------------|
| Raw Material Extraction and Processing | 426.88 | 42.88 % |
| End-of-Life Treatment | 312.07 | 31.35 % |
| Manufacturing | 156.1 | 15.68 % |
| Transportation and Distribution | 100.54 | 10.10 % |
| TOTAL | 995.58 | 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 | 0.79 | 394.86 | 92.50 % |
| Sourcing of raw material (adhesive) | 2 | $5.87 \cdot 10^{-3}$ | 32.02 | 7.50 % |

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|-------|--|--|--------|----------|
| TOTAL | | | 426.88 | 100.00 % |
|-------|--|--|--------|----------|

5846197 (sold in CH)

Climate Change - Manufacturing



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|----------|-------------------------------|----------------|
| Electricity usage during material transformation (bleached kraft paper) | 3 | 0.28 | 124 | 79.44 % |
| Natural gas usage during material transformation (bleached kraft paper) | 4 | 0.15 | 27.28 | 17.48 % |
| Electricity usage during material transformation (adhesive) | 3 | 0.01 | 4.82 | 3.09 % |
| TOTAL | | | 156.1 | 100.00 % |

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Climate Change - Transportation and Distribution



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|----------|---------------------|----------|-------------------------------|----------------|
| Freight | 5 | 0.53 | 100.54 | 100.00 % |
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| | | | | |
| TOTAL | | | 100.54 | 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 | 0.53 | 304.84 | 97.68 % |
| End of life (adhesive) | 6 | 5.34 · 10 ⁻³ | 7.23 | 2.32 % |
| TOTAL | | | 312.07 | 100.00 % |

Contact us

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