

greenly

2025-09-17

Lyreco LCA

Life Cycle Assessment

The methodology in this report is based on ISO 14040

20801526 (sold in IT)

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 "1 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

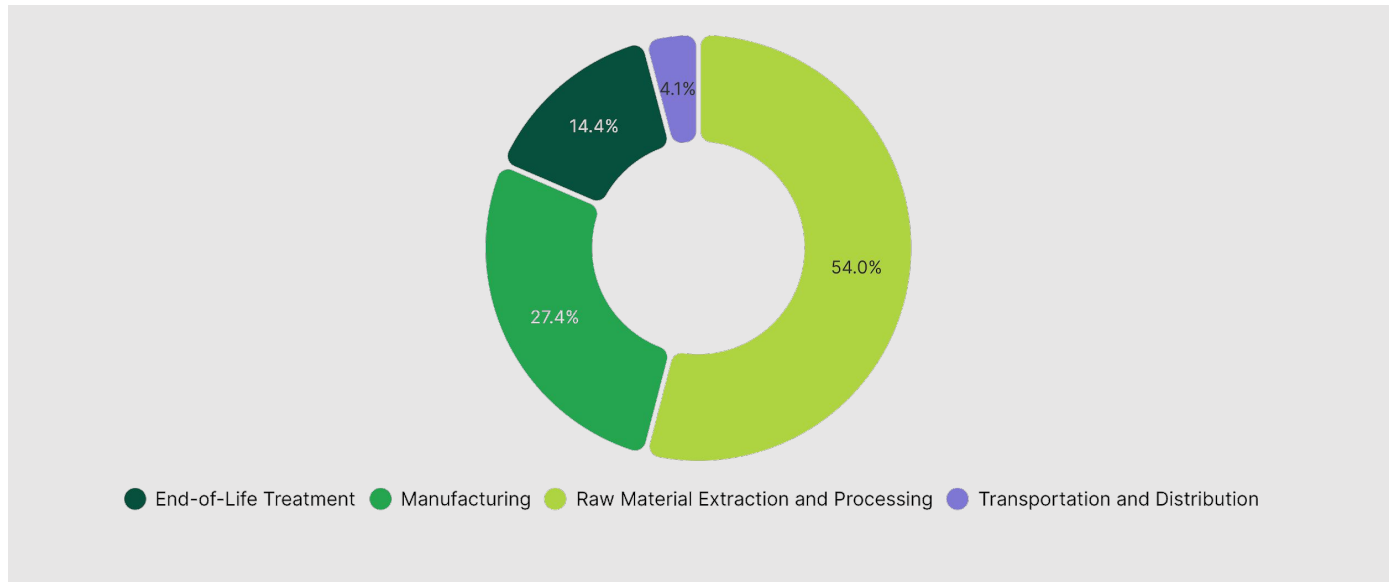
The impact of secondary packaging and writing utensils are excluded from this assessment.

02

Results

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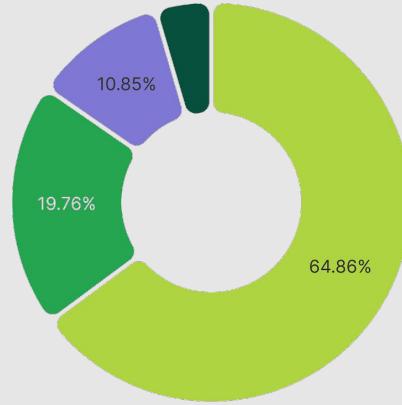
Climate Change



| Step | Impact (kg CO ₂ eq) | Percentage (%) |
|--|--------------------------------|-----------------|
| Raw Material Extraction and Processing | 0.93 | 54.04 % |
| Manufacturing | 0.47 | 27.43 % |
| End-of-Life Treatment | 0.25 | 14.43 % |
| Transportation and Distribution | 0.07 | 4.10 % |
| TOTAL | 1.71 | 100.00 % |

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Climate Change - Raw Material Extraction and Processing

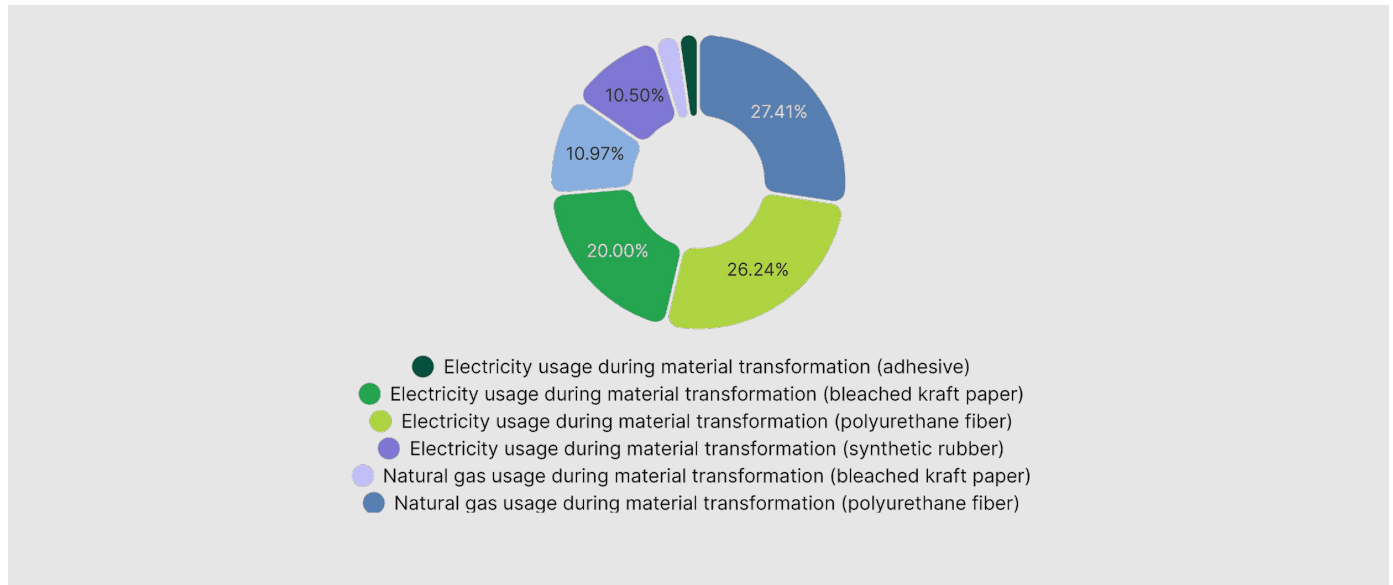


● Sourcing of raw material (adhesive)
 ● Sourcing of raw material (bleached kraft paper)
 ● Sourcing of raw material (polyurethane fiber)
 ● Sourcing of raw material (synthetic rubber)

| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|---|---------------------|------------------------|-------------------------------|----------------|
| Sourcing of raw material (polyurethane fiber) | 2 | 0.09 | 600.6 | 64.86 % |
| Sourcing of raw material (bleached kraft paper) | 1 | 0.37 | 182.94 | 19.76 % |
| Sourcing of raw material (synthetic rubber) | 4 | 0.04 | 100.47 | 10.85 % |
| Sourcing of raw material (adhesive) | 3 | 7.7 · 10 ⁻³ | 41.96 | 4.53 % |
| TOTAL | | | 925.96 | 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 (polyurethane fiber) | 6 | 0.71 | 128.85 | 27.41 % |
| Electricity usage during material transformation (polyurethane fiber) | 5 | 0.17 | 123.33 | 26.24 % |
| Electricity usage during material transformation (bleached kraft paper) | 5 | 0.13 | 94 | 20.00 % |
| Natural gas usage during material transformation (synthetic rubber) | 6 | 0.28 | 51.54 | 10.97 % |
| Electricity usage during material transformation (synthetic rubber) | 5 | 0.07 | 49.33 | 10.50 % |
| Natural gas usage during material transformation (bleached kraft paper) | 6 | 0.07 | 12.64 | 2.69 % |
| Electricity usage during material transformation (adhesive) | 5 | 0.01 | 10.33 | 2.20 % |
| TOTAL | | | 470.02 | 100.00 % |

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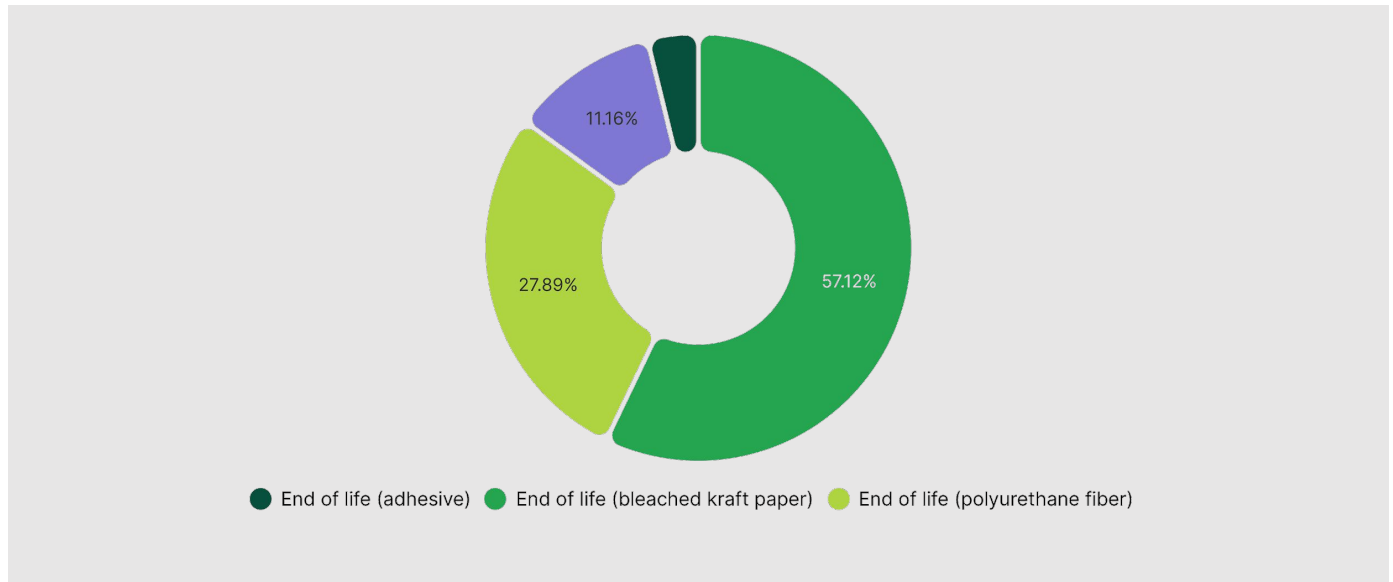
Climate Change - Transportation and Distribution



| Activity | Emission Factor Num | Quantity | Impact (g CO ₂ eq) | Percentage (%) |
|----------|---------------------|----------|-------------------------------|----------------|
| Freight | 7 | 0.35 | 70.26 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 70.26 | 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) | 9 | 0.25 | 141.23 | 57.12 % |
| End of life (polyurethane fiber) | 8 | 0.07 | 68.96 | 27.89 % |
| End of life (synthetic rubber) | 8 | 0.03 | 27.58 | 11.16 % |
| End of life (adhesive) | 10 | 6.99 · 10 ⁻³ | 9.47 | 3.83 % |
| TOTAL | | | 247.24 | 100.00 % |

Contact us

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