

**greenly**

2025-09-17

Lyreco LCA

# Life Cycle Assessment

*The methodology in this report is based on ISO 14040*

3922517 (sold in PL)

# Summary



**01** | Methodology



**02** | Results

# 01

## Methodology

# Environmental Impact Assessment

|   |  |
|---|--|
| <p><b>Functional unit</b></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).<br/>The functional unit of this analysis is "2 set(s) of bound pages of paper for the purpose of writing".</p> |
| <p><b>Impact Indicator</b></p>                      | <p>The impact is measured through the "IPCC 2013 GWP 100a" method.</p>   |
| <p><b>Electricity impact calculation method</b></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><b>Hypothesis</b></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

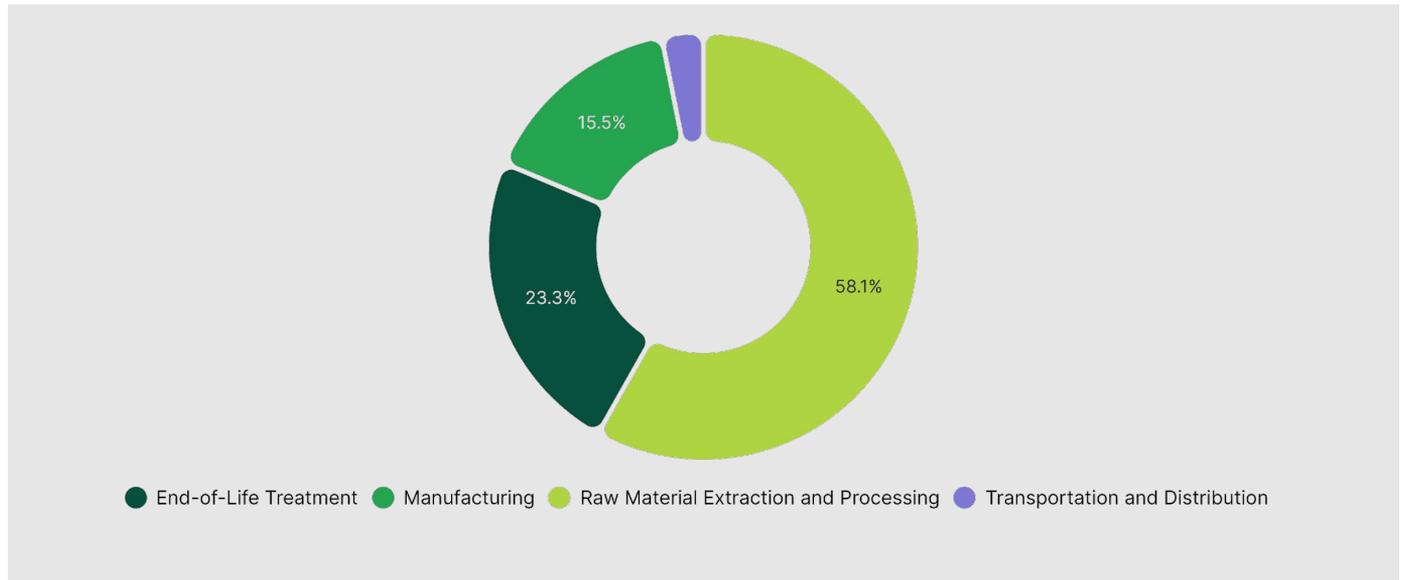
The impact of secondary packaging and writing utensils are excluded from this assessment.

# 02

## Results

3922517 (sold in PL)

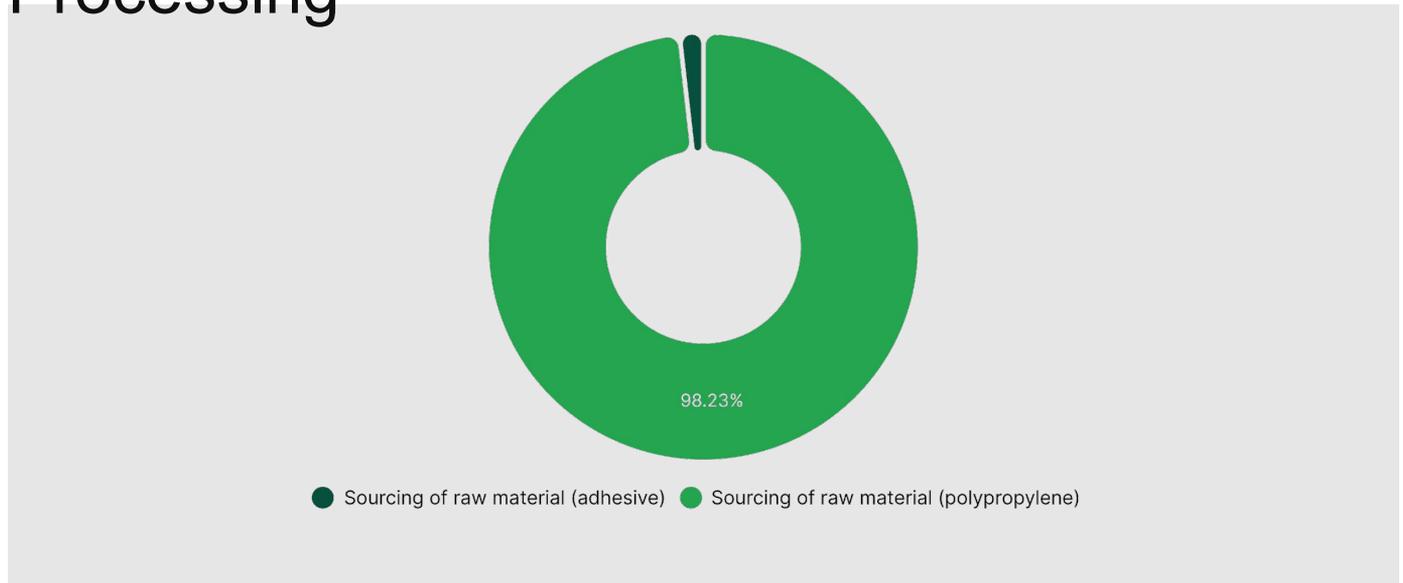
# Climate Change



| Step                                   | Impact (g CO <sub>2</sub> eq) | Percentage (%)  |
|--|-------------------------------|-----------------|
| Raw Material Extraction and Processing | 73.38                         | 58.12 %         |
| End-of-Life Treatment                  | 29.37                         | 23.26 %         |
| Manufacturing                          | 19.59                         | 15.51 %         |
| Transportation and Distribution        | 3.93                          | 3.11 %          |
| <b>TOTAL</b>                           | <b>126.26</b>                 | <b>100.00 %</b> |

3922517 (sold in PL)

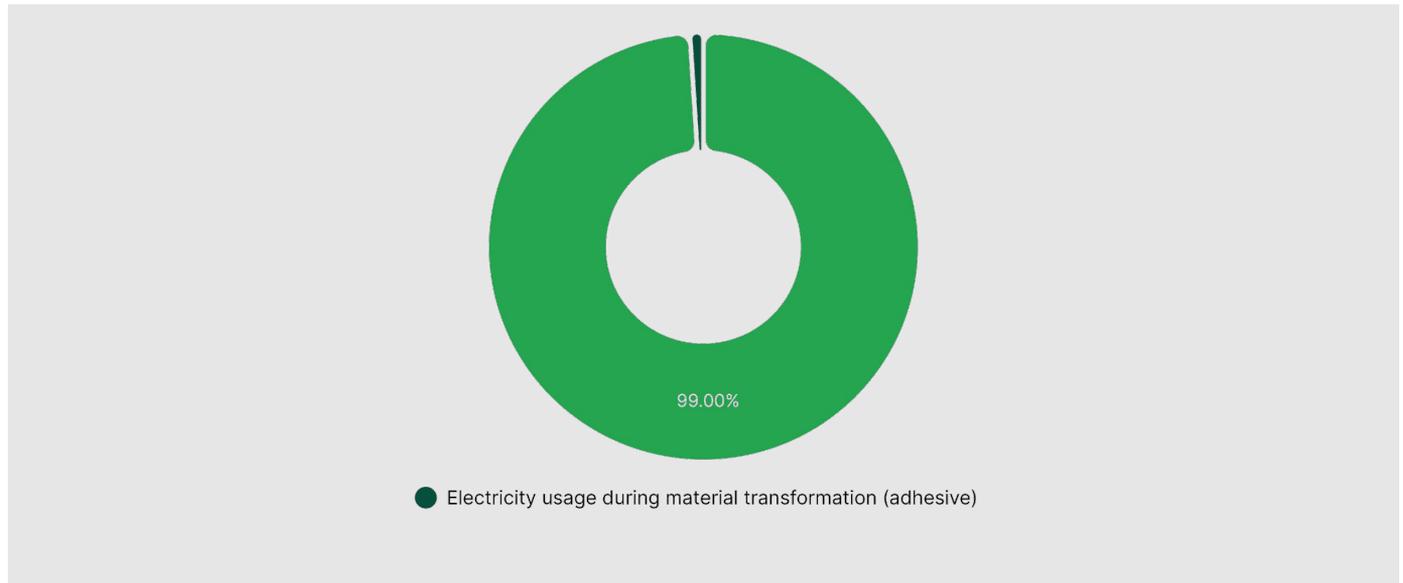
# Climate Change - Raw Material Extraction and Processing



| Activity                                 | Emission Factor Num | Quantity                | Impact (g CO <sub>2</sub> eq) | Percentage (%) |
|--|---------------------|-------------------------|-------------------------------|----------------|
| Sourcing of raw material (polypropylene) | 1                   | 0.02                    | 72.08                         | 98.23 %        |
| Sourcing of raw material (adhesive)      | 2                   | 2.38 · 10 <sup>-4</sup> | 1.3                           | 1.77 %         |
| TOTAL                                    |                     |                         | 73.38                         | 100.00 %       |

3922517 (sold in PL)

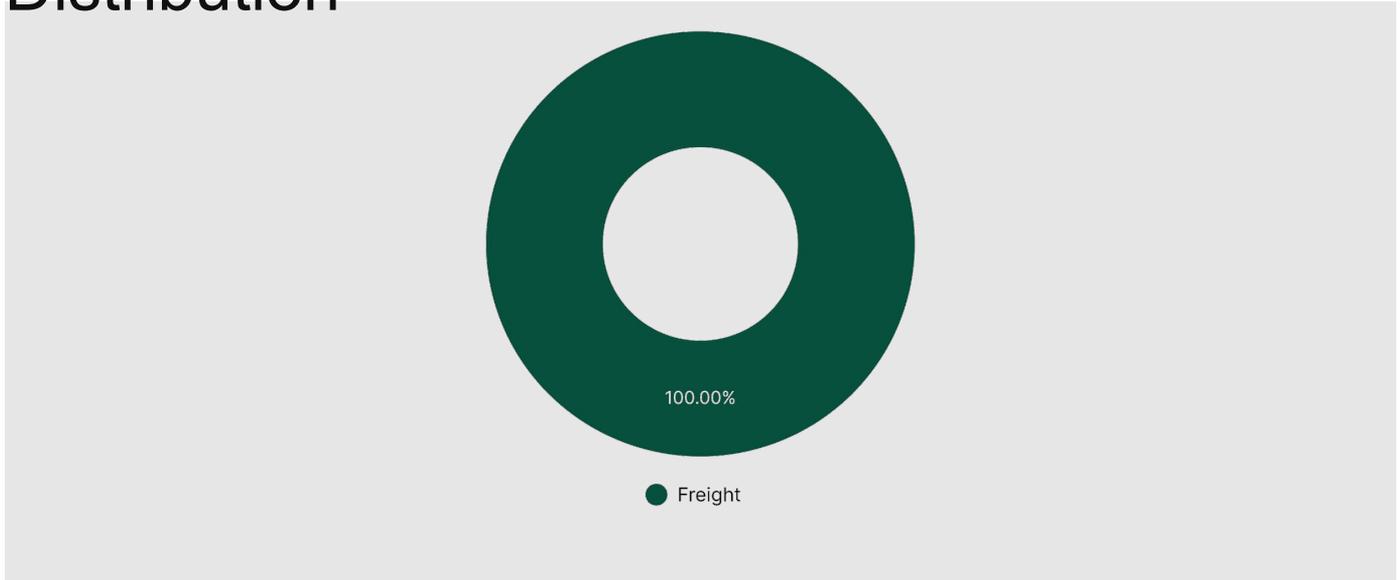
# Climate Change - Manufacturing



| Activity   | Emission Factor Num | Quantity                | Impact (g CO <sub>2</sub> eq) | Percentage (%) |
|--|---------------------|-------------------------|-------------------------------|----------------|
| Electricity usage during material transformation (polypropylene) | 3                   | 0.04                    | 19.39                         | 99.00 %        |
| Electricity usage during material transformation (adhesive)      | 3                   | 4.43 · 10 <sup>-4</sup> | 0.2                           | 1.00 %         |
| TOTAL  |                     |                         | 19.59                         | 100.00 %       |

3922517 (sold in PL)

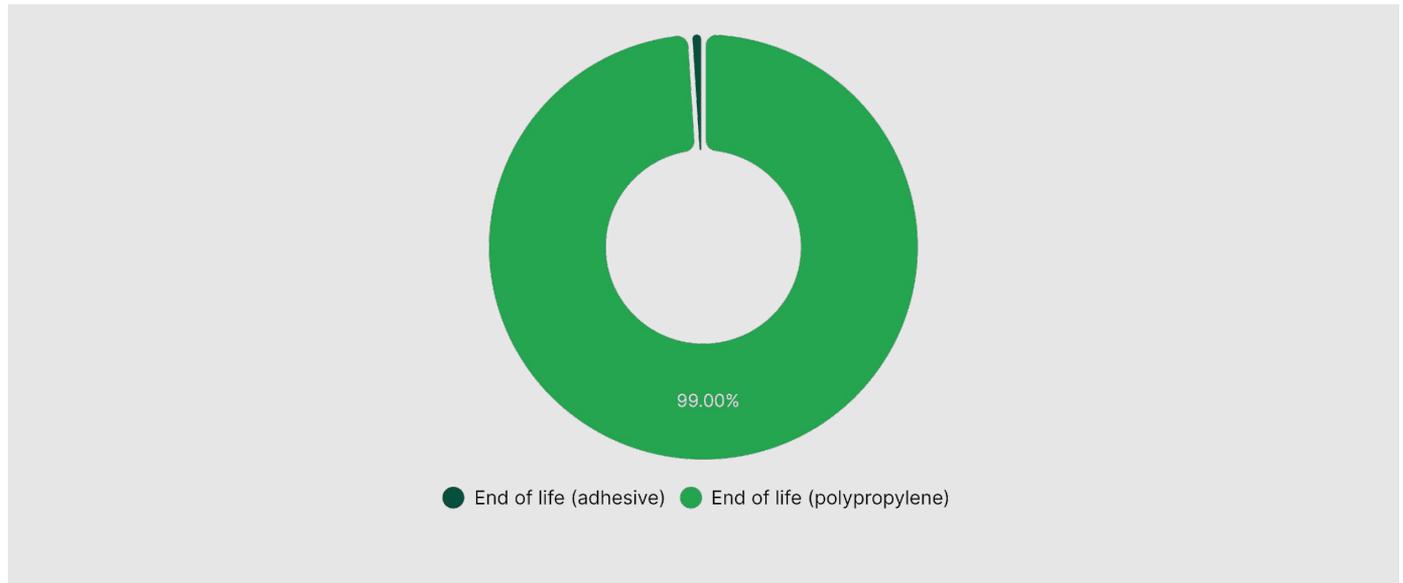
# Climate Change - Transportation and Distribution



| Activity | Emission Factor Num | Quantity | Impact (g CO <sub>2</sub> eq) | Percentage (%) |
|----------|---------------------|----------|-------------------------------|----------------|
| Freight  | 4                   | 0.02     | 3.93                          | 100.00 %       |
|          |                     |          |                               |                |
|          |                     |          |                               |                |
|          |                     |          |                               |                |
|          |                     |          |                               |                |
| TOTAL    |                     |          | 3.93                          | 100.00 %       |

3922517 (sold in PL)

# Climate Change - End-of-Life Treatment



| Activity                    | Emission Factor Num | Quantity                | Impact (g CO <sub>2</sub> eq) | Percentage (%) |
|-----------------------------|---------------------|-------------------------|-------------------------------|----------------|
| End of life (polypropylene) | 5                   | 0.02                    | 29.08                         | 99.00 %        |
| End of life (adhesive)      | 5                   | 2.17 · 10 <sup>-4</sup> | 0.29                          | 1.00 %         |
| TOTAL                       |                     |                         | 29.37                         | 100.00 %       |

# Contact us

Alexis Normand CEO

[www.greenly.earth](http://www.greenly.earth)