greenly

2025-09-18

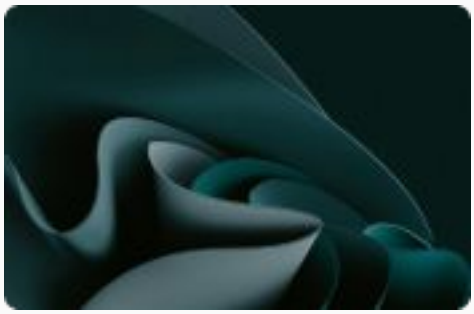
Lyreco LCA

# Life Cycle Assessment

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

3061419 (sold in PL)

# Summary





# 01

# Methodology

# Environmental Impact Assessment

| | |
|---|---|
| **Functional unit** | 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 “500 page(s) of A4 paper for writing”. |
| **Impact Indicator** | The impact is measured through the "IPCC 2013 GWP 100a" method. |
| **Electricity impact calculation method** | 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. |
| **Hypothesis** | |

# Environmental Impact Assessment

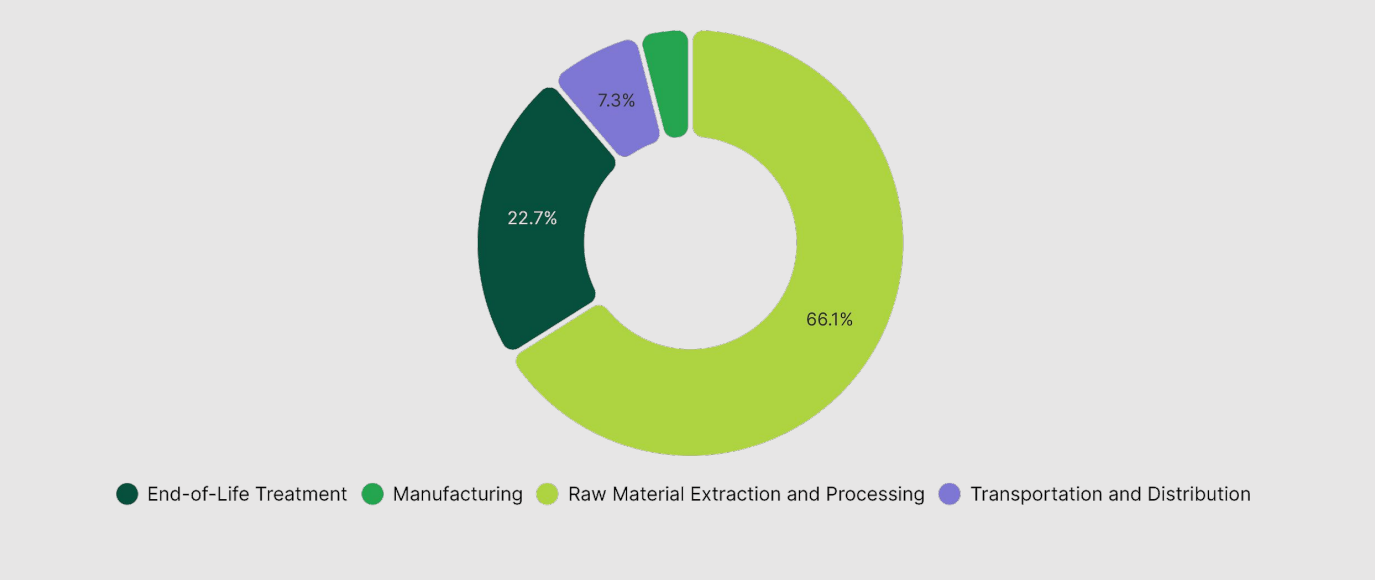
| | |
|---|---|
| **System Boundaries** | The scope of this research includes the complete lifecycle of a piece of paper from raw material extraction to disposal options for each material, which is the cradle-to-grave perspective. |
| **Exclusions** | The impact of secondary packaging impact and writing utensils are excluded from this assessment. |

# 02

# Results

3061419 (sold in PL)

# Climate Change




| Step | Impact (kg $CO_2$ eq) | Percentage (%) |
|---|---|---|
| Raw Material Extraction and Processing | 4.21 | 66.07 % |
| End-of-Life Treatment | 1.44 | 22.67 % |
| Transportation and Distribution | 0.46 | 7.28 % |
| Manufacturing | 0.25 | 3.98 % |
| | | |
| TOTAL | 6.37 | 100.00 % |

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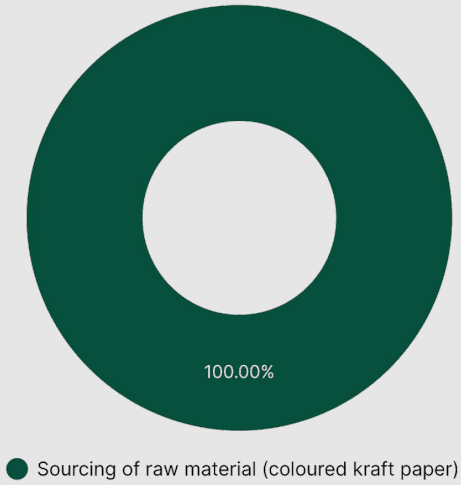
# Climate Change - Raw Material Extraction and Processing




| Activity | Emission Factor Num | Quantity | Impact (kg $CO_2$ eq) | Percentage (%) |
|---|---|---|---|---|
| Sourcing of raw material (coloured kraft paper) | 1 | 3.76 | 4.21 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 4.21 | 100.00 % |

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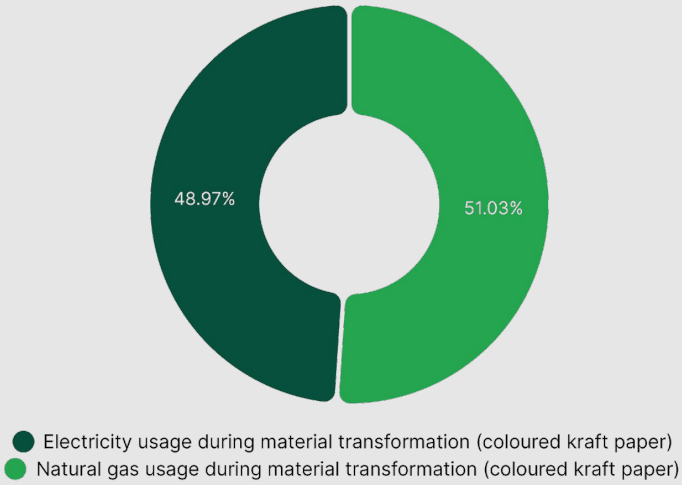
# Climate Change - Manufacturing




| Activity | Emission Factor Num | Quantity | Impact (g $CO_2$ eq) | Percentage (%) |
|---|---|---|---|---|
| Natural gas usage during material transformation (coloured kraft paper) | 3 | 0.71 | 129.22 | 51.03 % |
| Electricity usage during material transformation (coloured kraft paper) | 2 | 1.33 | 124.01 | 48.97 % |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 253.23 | 100.00 % |

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# Climate Change - Transportation and Distribution


| Activity | Emission Factor Num | Quantity | Impact (g $CO_2$ eq) | Percentage (%) |
|---|---|---|---|---|
| Freight | 4 | 2.51 | 463.8 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 463.8 | 100.00 % |

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# Climate Change - End-of-Life Treatment


| Activity | Emission Factor Num | Quantity | Impact (kg $CO_2$ eq) | Percentage (%) |
|---|---|---|---|---|
| End of life (coloured kraft paper) | 5 | 2.51 | 1.44 | 100.00 % |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| TOTAL | | | 1.44 | 100.00 % |

# Contact us

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