



2025-09-18

Lyreco LCA

# Life Cycle Assessment

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

9809881 (sold in FI)

# Summary



## 01 | Methodology



## 02 | Results

# 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).  
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.

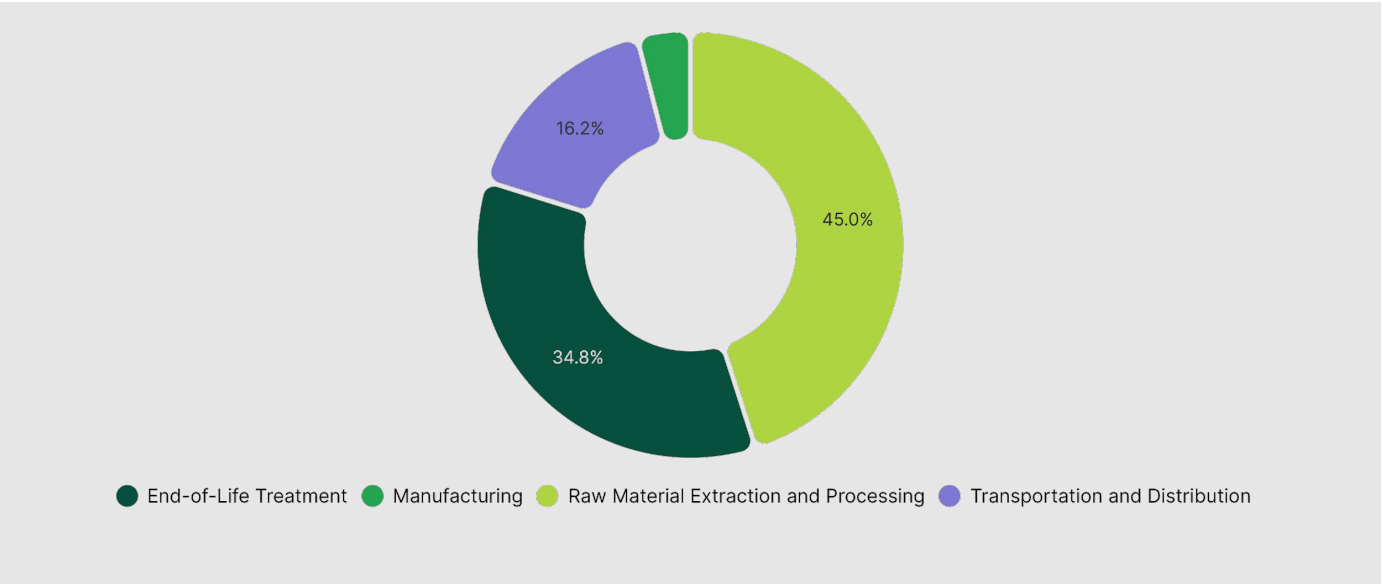
## Exclusions

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

# 02

## Results

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 Climate Change



Step	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Raw Material Extraction and Processing	1.93	45.04 %
End-of-Life Treatment	1.49	34.77 %
Transportation and Distribution	0.69	16.17 %
Manufacturing	0.17	4.02 %
TOTAL	4.28	100.00 %

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# Climate Change - Raw Material Extraction and Processing



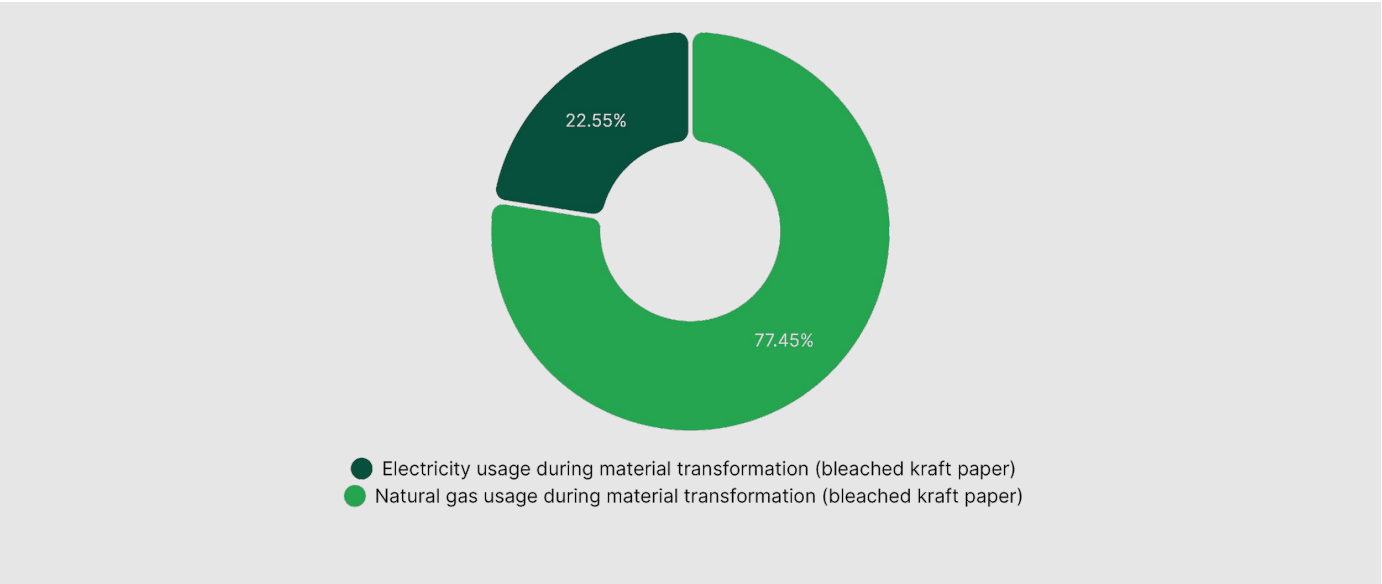
- Sourcing of raw material (bleached kraft paper)

Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Sourcing of raw material (bleached kraft paper)	1	3.87	1.93	100.00 %
TOTAL			1.93	100.00 %



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# Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Natural gas usage during material transformation (bleached kraft paper)	3	0.74	133.12	77.45 %
Electricity usage during material transformation (bleached kraft paper)	2	1.37	38.75	22.55 %

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TOTAL			171.86	100.00 %
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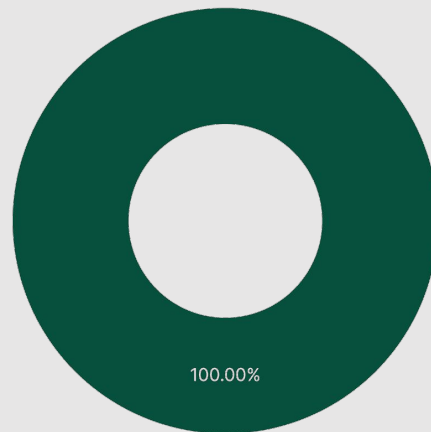
# Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Freight	4	2.58	691.57	100.00 %
TOTAL			691.57	100.00 %

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# Climate Change - End-of-Life Treatment



- End of life (bleached kraft paper)

Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
End of life (bleached kraft paper)	5	2.58	1.49	100.00 %
TOTAL			1.49	100.00 %

# Contact us

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