



2025-09-17

Lyreco LCA

# Life Cycle Assessment

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

13527304 (sold in WI)

# 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 "30 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.

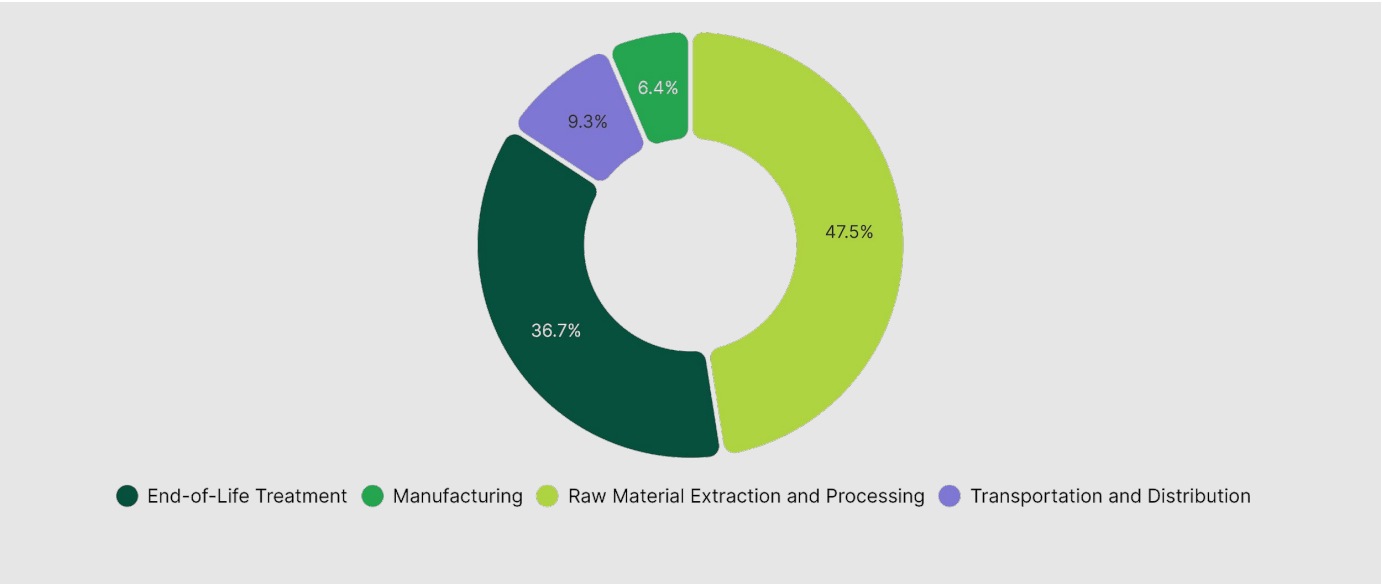
## Exclusions

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	7.23	47.55 %
End-of-Life Treatment	5.58	36.71 %
Transportation and Distribution	1.42	9.31 %
Manufacturing	0.98	6.44 %
TOTAL	15.21	100.00 %

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# Climate Change - Raw Material Extraction and Processing



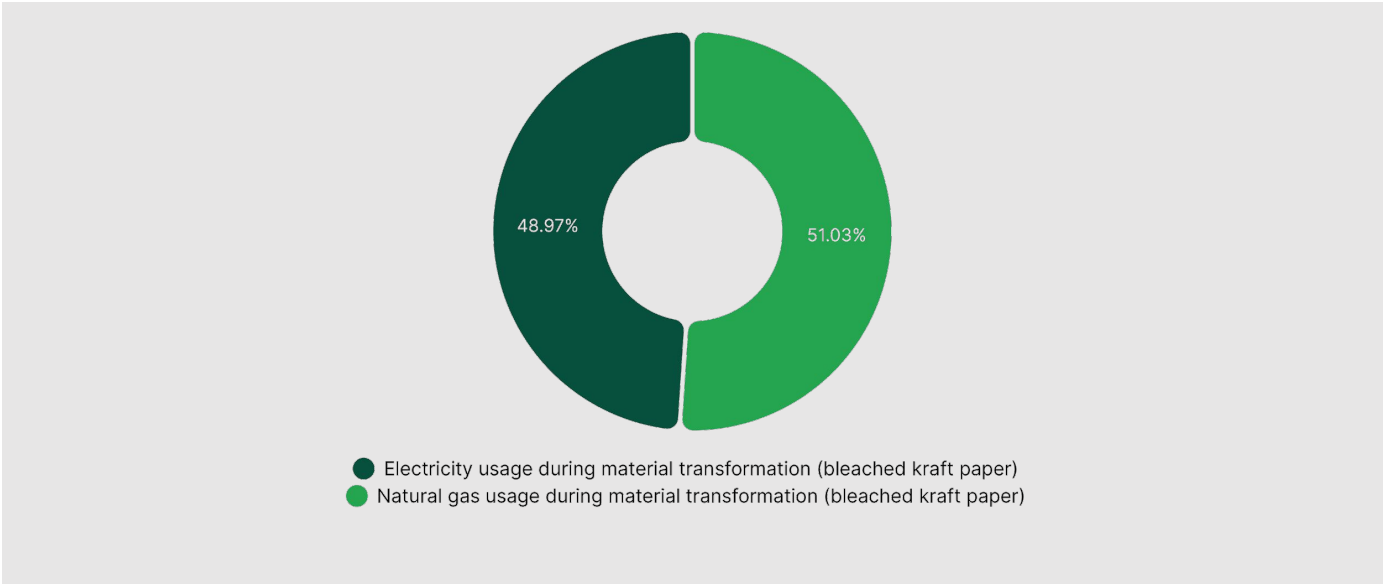
- Sourcing of raw material (bleached kraft paper)

Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Sourcing of raw material (bleached kraft paper)	1	14.53	7.23	100.00 %
TOTAL			7.23	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	2.76	499.75	51.03 %
Electricity usage during material transformation (bleached kraft paper)	2	5.14	479.61	48.97 %
TOTAL				979.37 100.00 %

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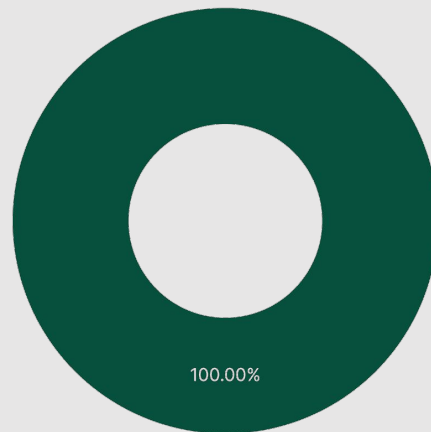
# Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Freight	4	9.69	1.42	100.00 %
TOTAL			1.42	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	9.69	5.58	100.00 %
TOTAL			5.58	100.00 %

# Contact us

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