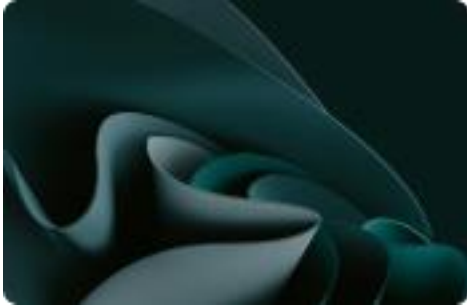


Life Cycle Analyses

POPLAT



Summary



01 | Methodology

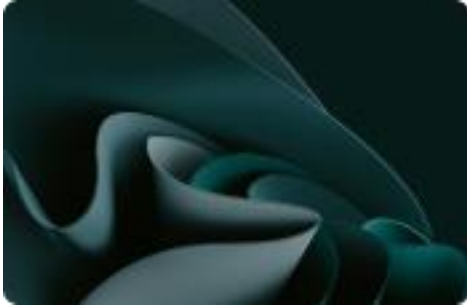


02 | Results

01

Methodology

Summary



01 | Methodology



02 | Results

Emission Factor Inventory

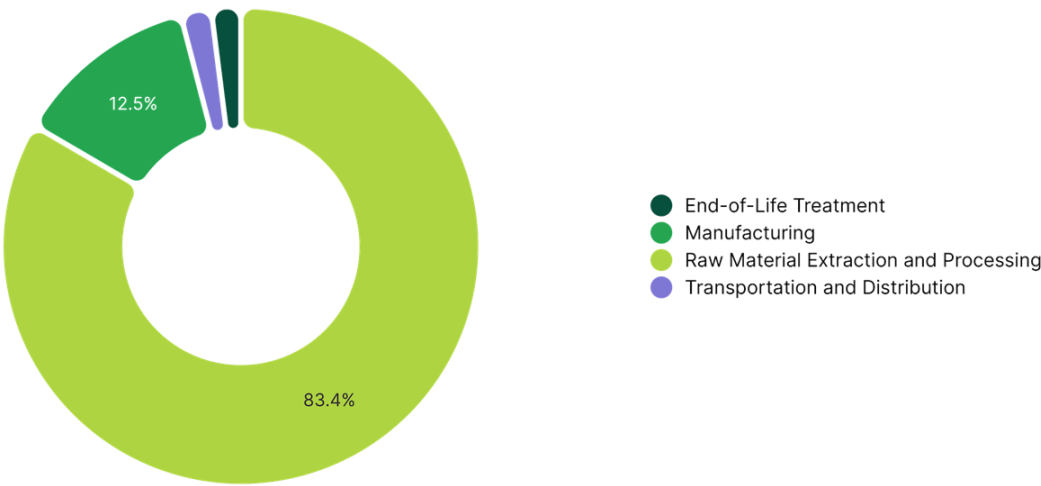
Nu m	Emission Factor	Source	Value	Unit
1	Polyurethane, rigid foam Ordinary transforming activity	ECOINVENT 3.10	4.60	kg
2	Polyvinylchloride, emulsion polymerised Ordinary transforming activity	ECOINVENT 3.10	2.63	kg
3	Nylon 6 Ordinary transforming activity	ECOINVENT 3.10	9.27	kg
4	Polyester filament finished at plant 100% polyester	BASE EMPREINTE ADEME 3.0	10.03	kg
5	Electricity Total (Scope 2 & 3) People's Republic of China	IEA 2023	0.72	kWh
6	Freight Boat From CN to FR	WELOW EXPERTS 1.0	0.25	kg
7	Waste yarn and waste textile Ordinary transforming activity	ECOINVENT 3.10	0.00	kg
8	Waste polyvinylchloride product Ordinary transforming activity	ECOINVENT 3.10	1.21	kg
9	Waste polyethylene/polypropylene product Ordinary transforming activity	ECOINVENT 3.10	1.78	kg

02

Results

Mailing bag

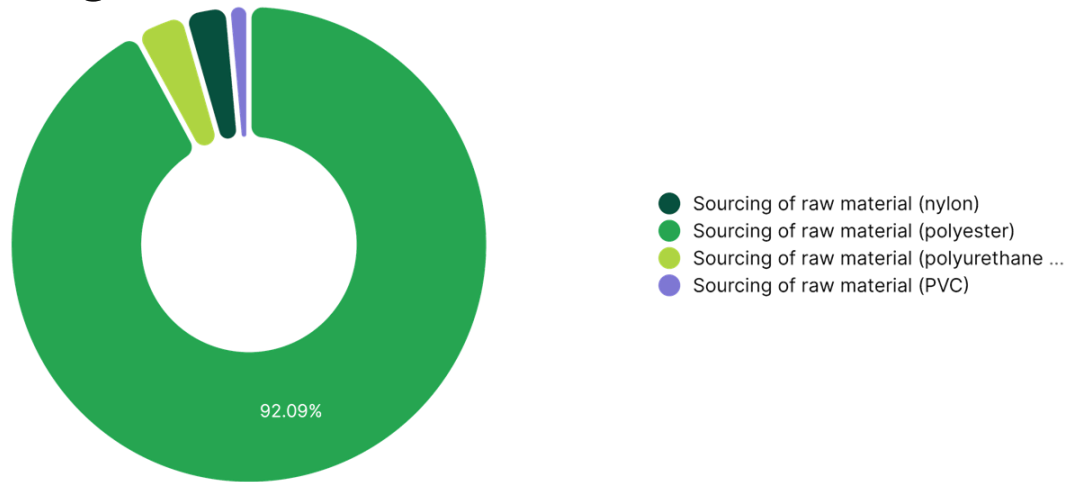
Climate Change



Step	Impact (kg CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	1.32	83.42 %
Manufacturing	0.2	12.53 %
Transportation and Distribution	0.03	2.07 %
End-of-Life Treatment	0.03	1.99 %
TOTAL	1.59	100.00 %

Mailing bag

Climate Change - Raw Material Extraction and Processing



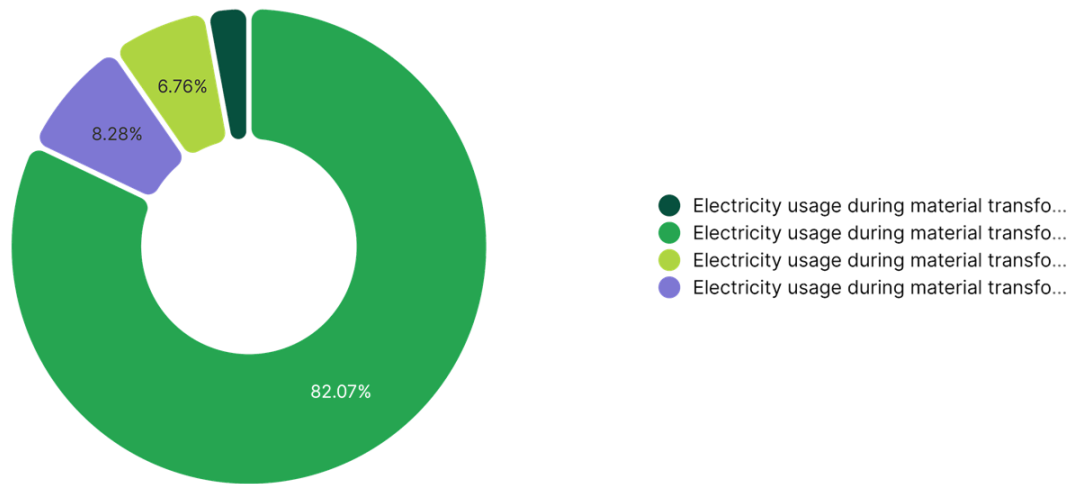
Activity	Emission Factor Num	Quantity	Unité	Impact (kg CO ₂ eq)	Percentage (%)
Sourcing of raw material (polyester)	4	0.12	kg	1.22	92.09 %
Sourcing of raw material (polyurethane foam)	1	0.01	kg	0.05	3.48 %
Sourcing of raw material (nylon)	3	4.29 · 10 ⁻³	kg	0.04	3.01 %
Sourcing of raw material (PVC)	2	7.15 · 10 ⁻³	kg	0.02	1.42 %

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TOTAL				1.32	100.00 %
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Mailing bag

Climate Change - Manufacturing



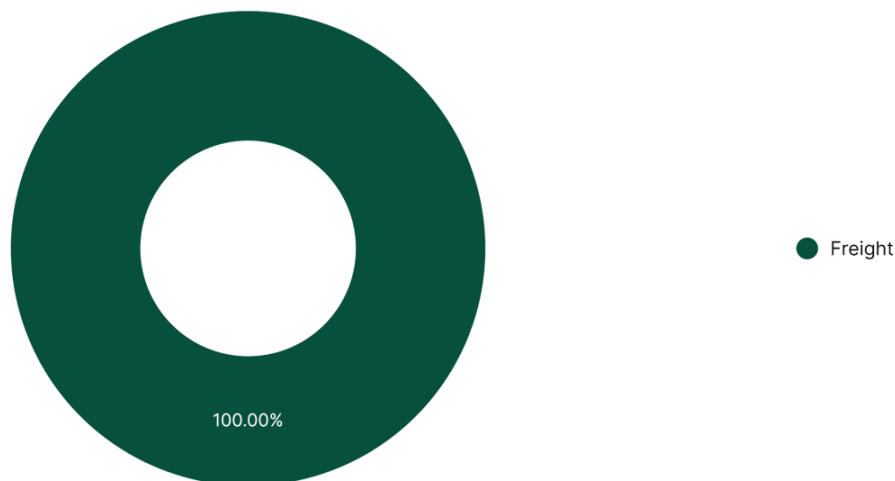
Activity	Emission Factor Num	Quantity	Unité	Impact (g CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (polyester)	5	0.23	kWh	163.13	82.07 %
Electricity usage during material transformation (PVC)	5	0.02	kWh	16.45	8.28 %
Electricity usage during material transformation (polyurethane foam)	5	0.02	kWh	13.43	6.76 %
Electricity usage during material transformation (nylon)	5	$7.96 \cdot 10^{-3}$	kWh	5.76	2.90 %

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TOTAL				198.78	100.00 %
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Mailing bag

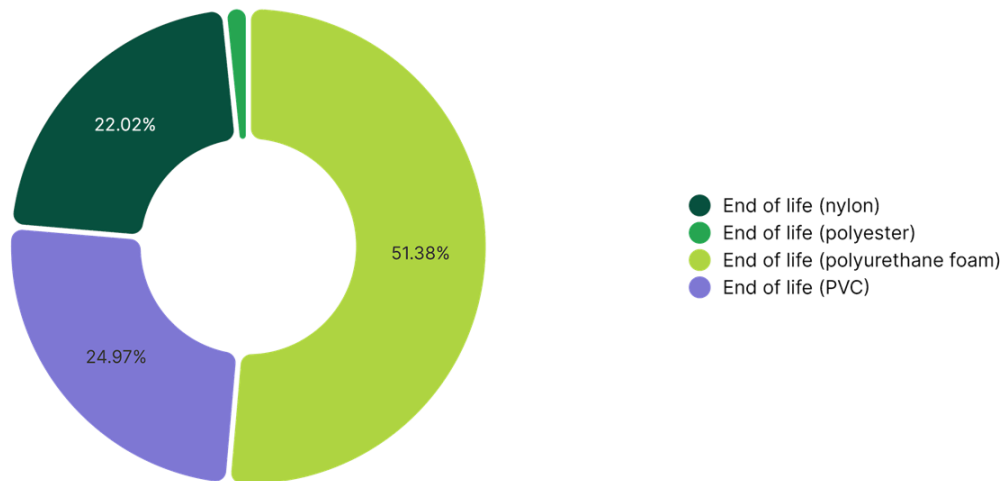
Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Unité	Impact (g CO ₂ eq)	Percentage (%)
Freight	6	0.13	kg	32.8	100.00 %
TOTAL				32.8	100.00 %

Mailing bag

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Unité	Impact (g CO ₂ eq)	Percentage (%)
End of life (polyurethane foam)	9	$9.1 \cdot 10^{-3}$	kg	16.23	51.38 %
End of life (PVC)	8	$6.5 \cdot 10^{-3}$	kg	7.89	24.97 %
End of life (nylon)	9	$3.89 \cdot 10^{-3}$	kg	6.96	22.02 %
End of life (polyester)	7	0.11	kg	0.51	1.63 %

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TOTAL				31.59	100.00 %
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