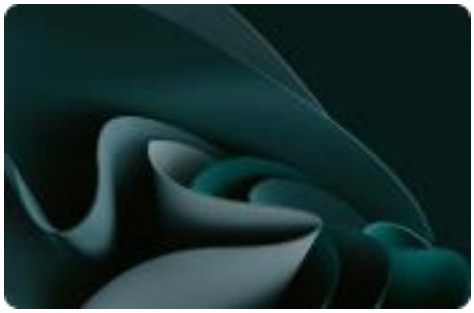
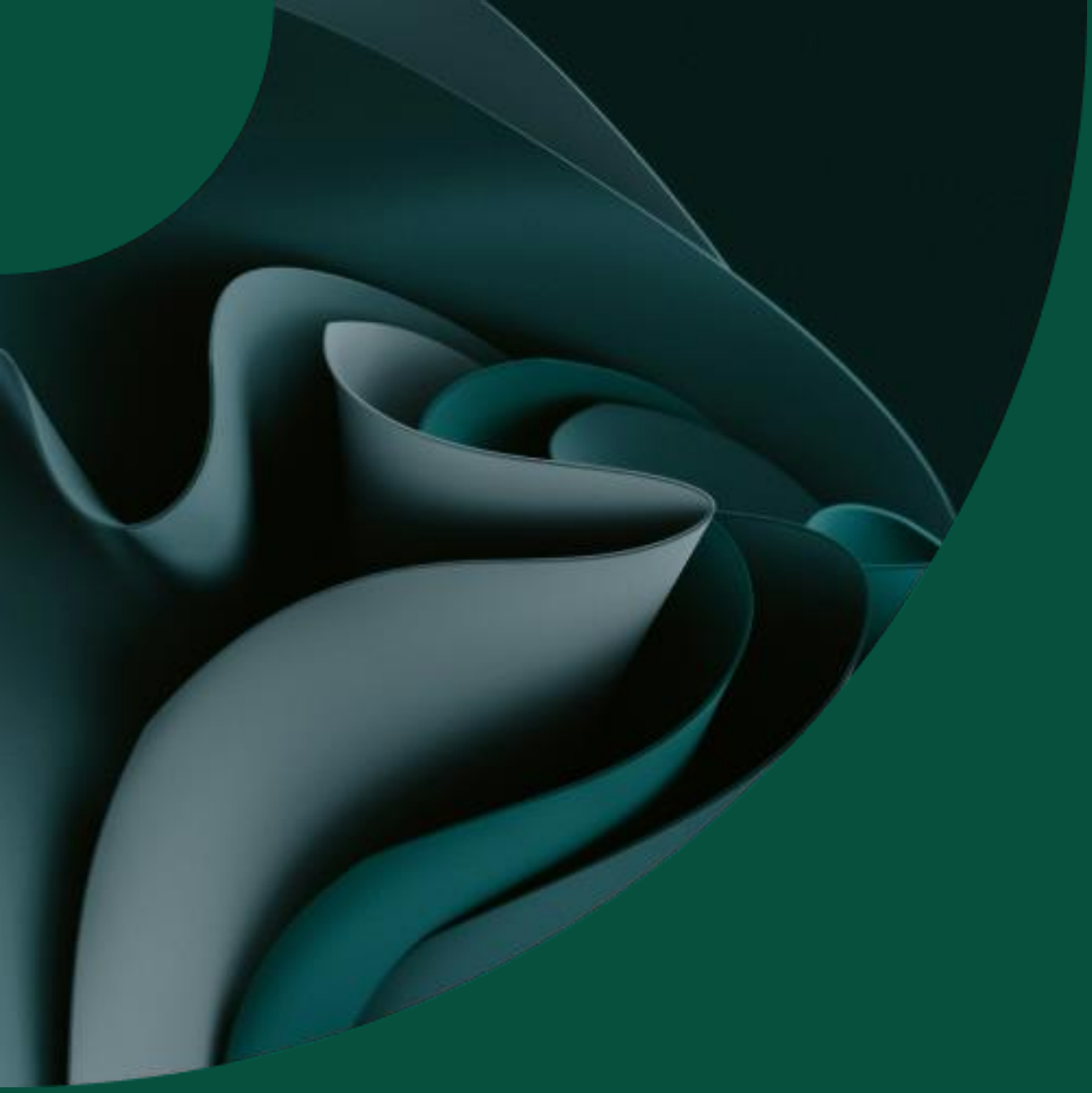
Life Cycle Analyses

PMPLUIE BC

ALBA

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). Therefore, the functional unit shall be clearly defined and measurable. The functional unit of this analysis is “”
Impact Indicator	The impact is measured through the "" 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	
Exclusions	

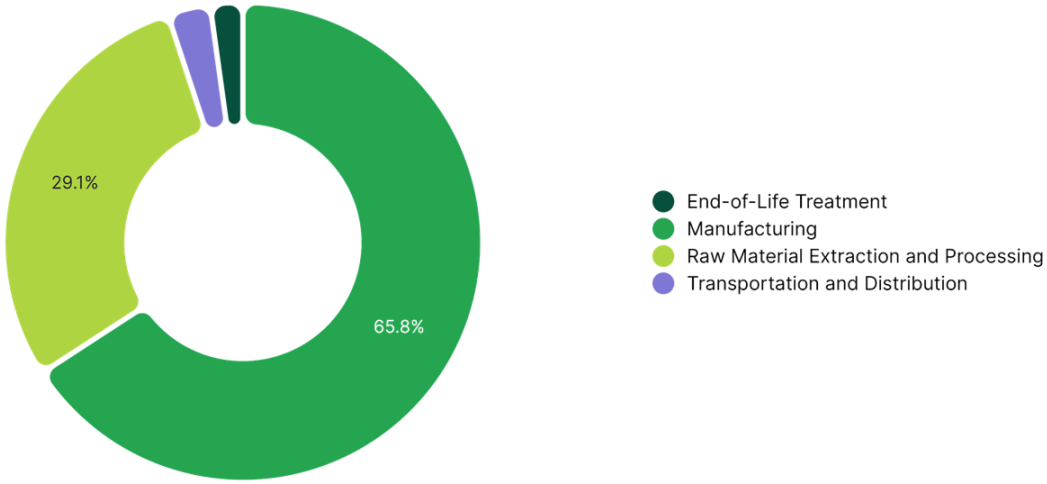
Emission Factor Inventory

Num	Emission Factor	Source	Value	Unit
1	Polyurethane, rigid foam | Ordinary transforming activity	ECOINVENT 3.10	4.602684501	kg
2	Steel, low-alloyed | Ordinary transforming activity	ECOINVENT 3.10	2.203301567	kg
3	Electricity | Total (Scope 2 & 3) | People's Republic of China	IEA 2023	0.7231	kWh
4	Freight | Boat | From CN to FR	WELOW EXPERTS 1.0	0.25227278	kg
5	Waste reinforcement steel | Ordinary transforming activity	ECOINVENT 3.10	0.062734275595	kg
6	Waste polyethylene/polypropylene product | Ordinary transforming activity	ECOINVENT 3.10	1.783532575	kg

02 Results

Umbrella stand

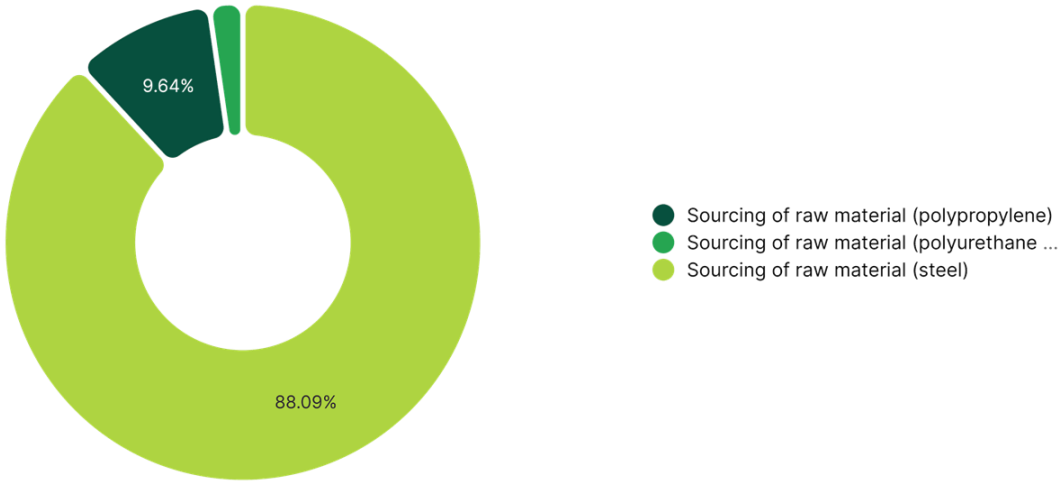
Climate Change



Step	Impact (kg CO_2 eq)	Percentage (%)
Manufacturing	11.75	66.52 %
Raw Material Extraction and Processing	5.11	28.94 %
Transportation and Distribution	0.5	2.86 %
End-of-Life Treatment	0.3	1.68 %
TOTAL	17,66	**100.00 %**

Umbrella stand

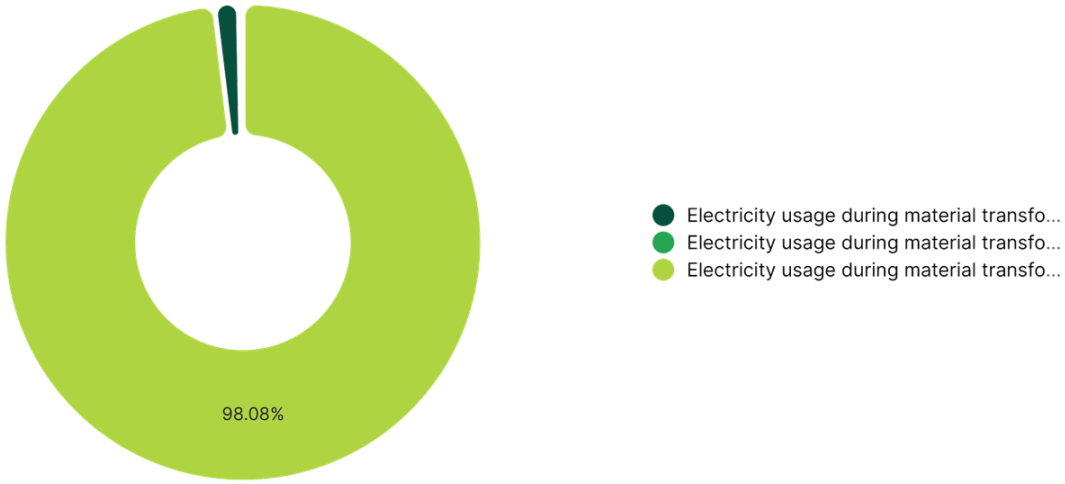
Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (kg CO_2 eq)	Percentage (%)
Sourcing of raw material (steel)	2	2.09	4.6	90.09 %
Sourcing of raw material (polyurethane foam)	1	0.11	0.51	9.91 %
TOTAL			5.11	100.00 %

Umbrella stand

Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (kg CO_2 eq)	Percentage (%)
Electricity usage during material transformation (steel)	3	16.04	11.6	98.74 %
Electricity usage during material transformation (polyurethane foam)	3	0.2	0.15	1.26 %
TOTAL			11.75	100.00 %

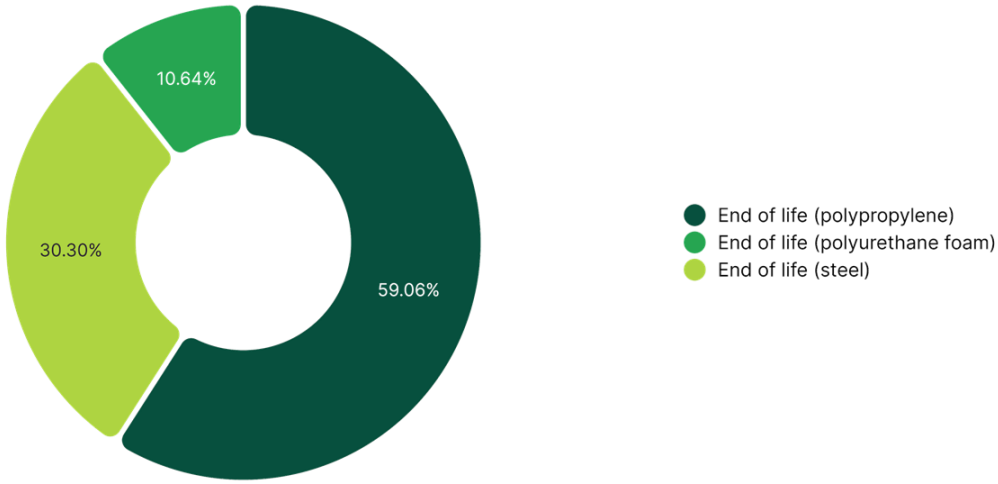
Umbrella stand

Climate Change - Transportation and Distribution

Activity	Emission Factor Num	Quantity	Impact (g CO_2 eq)	Percentage (%)
Freight	4	2	504.55	100.00 %
TOTAL			504.55	100.00 %

Umbrella stand

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (g CO_2 eq)	Percentage (%)
End of life (polyurethane foam)	6	0.1	178.35	59.94 %
End of life (steel)	5	1.9	119.2	40.06 %
TOTAL			297.55	100.00 %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