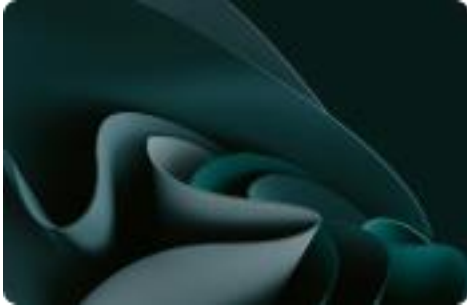


Life Cycle Analyses

MHFLEXY N



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). Therefore, the functional unit shall be clearly defined and measurable.

Impact Indicator

The impact is measured through the "IPCC 2021 GWP100" 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.

Life Cycle Analyses

Cradle to grave

Emission Factor Inventory

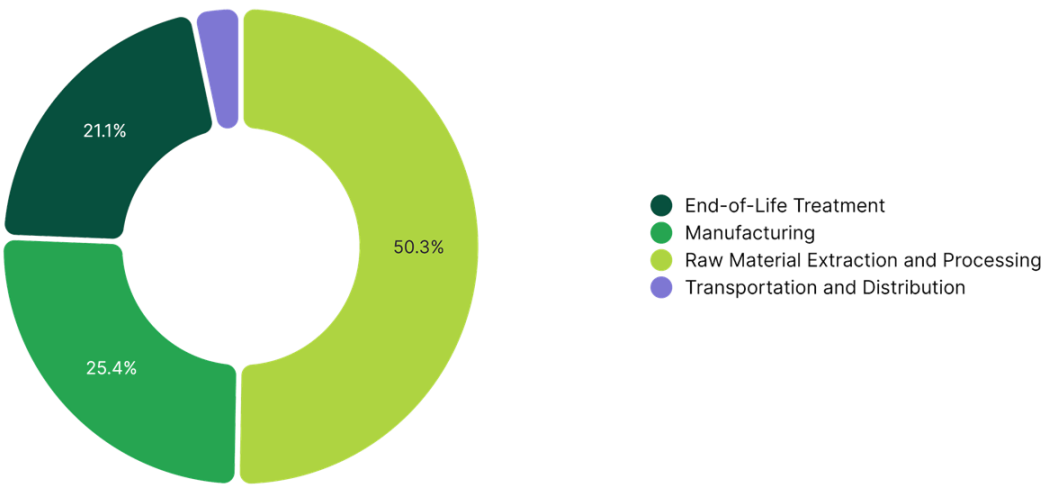
Nu m	Emission Factor	Source	Value	Unit
1	Polypropylene, granulate Market activity	ECOINVENT 3.10	3.51619699 3	kg
2	Steel, low-alloyed Ordinary transforming activity	ECOINVENT 3.10	2.20330156 7	kg
3	Polyurethane, rigid foam Ordinary transforming activity	ECOINVENT 3.10	4.6026845 01	kg
4	Electricity Total (Scope 2 & 3) People's Republic of China	IEA 2023	0.7231	kWh
5	Freight Boat From CN to FR	WELOW EXPERTS 1.0	0.2522727 8	kg
6	Waste reinforcement steel Ordinary transforming activity Waste	ECOINVENT 3.10	0.0627342 7595	kg
7	polyethylene/polypropylene product Ordinary	ECOINVENT 3.10	1.78353257 5	kg

02

Results

Dynamic stool

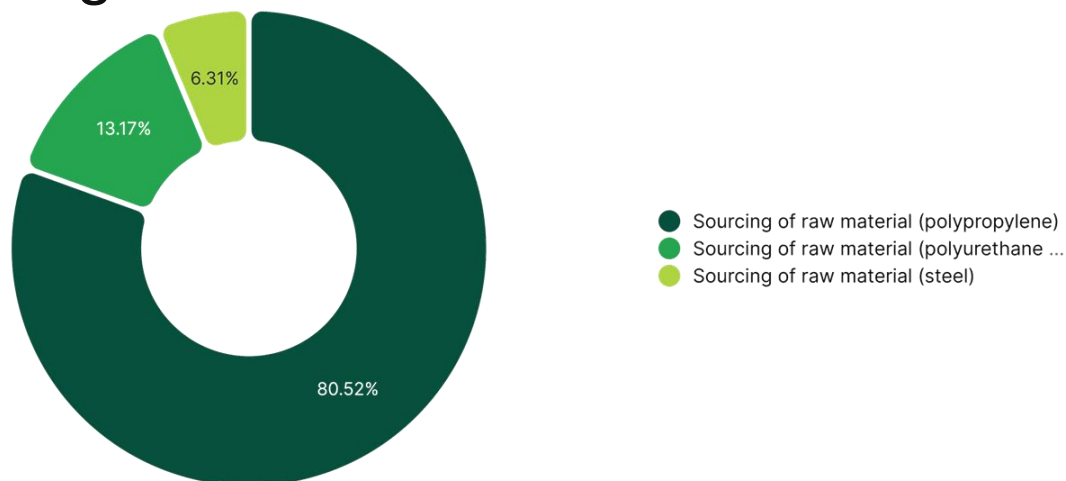
Climate Change



Step	Impact (kg CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	20.37	50.26 %
Manufacturing	10.28	25.36 %
End-of-Life Treatment	8.54	21.08 %
Transportation and Distribution	1.34	3.30 %
TOTAL	40.52	100.00 %

Dynamic stool

Climate Change - Raw Material Extraction and Processing

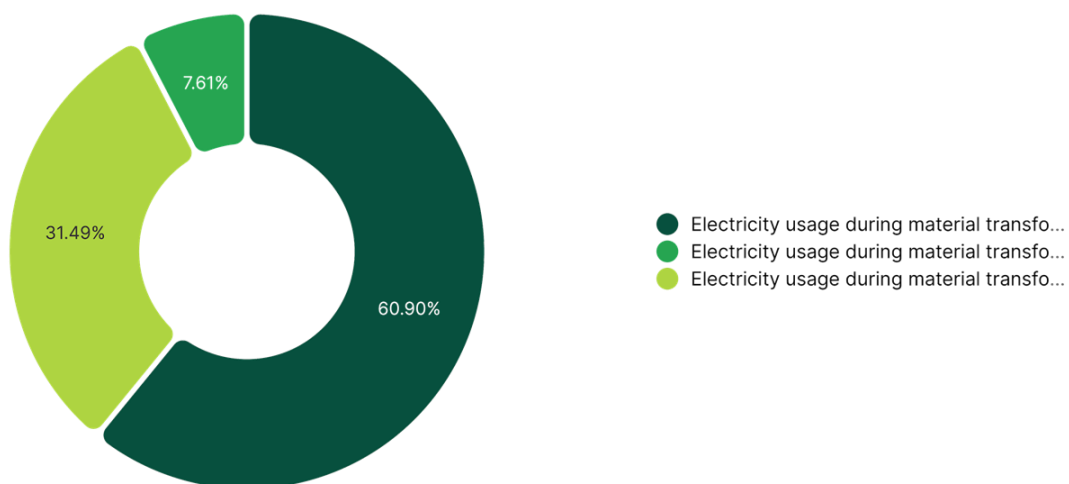


Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Sourcing of raw material (polypropylene)	1	4.66	16.4	80.52 %
Sourcing of raw material (polyurethane foam)	3	0.58	2.68	13.17 %
Sourcing of raw material (steel)	2	0.58	1.28	6.31 %

TOTAL	20.37	100.00 %
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Dynamic stool

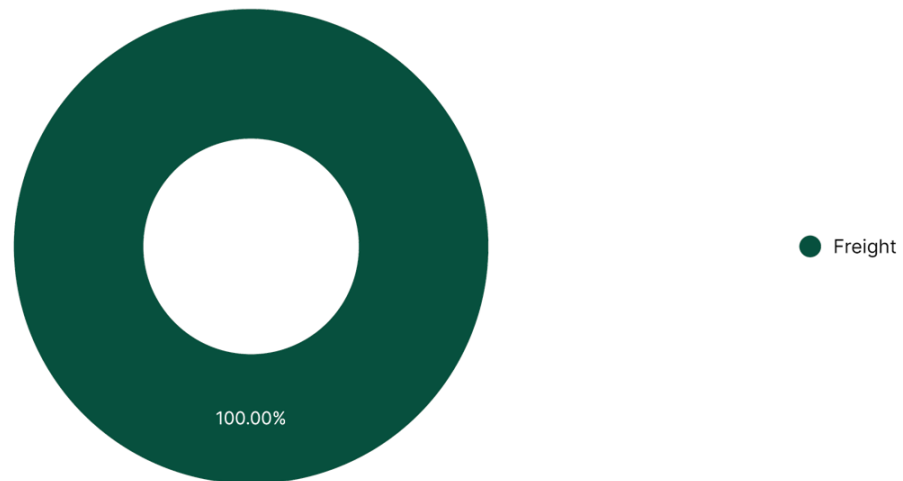
Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (polypropylene)	4	8.66	6.26	60.90 %
Electricity usage during material transformation (steel)	4	4.48	3.24	31.49 %
Electricity usage during material transformation (polyurethane foam)	4	1.08	0.78	7.61 %
TOTAL			10.28	100.00 %

Dynamic stool

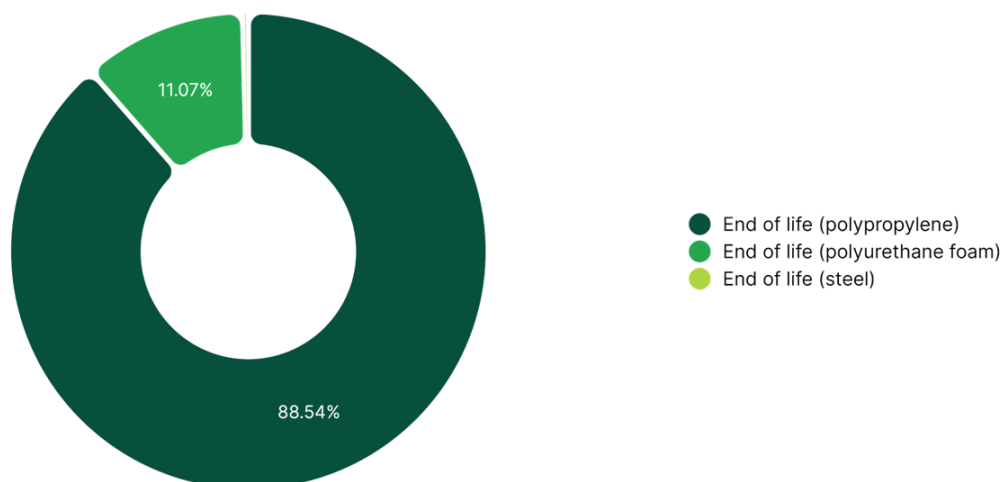
Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Freight	5	5.3	1.34	100.00 %
TOTAL			1.34	100.00 %

Dynamic stool

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
End of life (polypropylene)	7	4.24	7.56	88.54 %
End of life (polyurethane foam)	7	0.53	0.95	11.07 %
End of life (steel)	6	0.53	0.03	0.39 %
TOTAL			8.54	100.00 %

