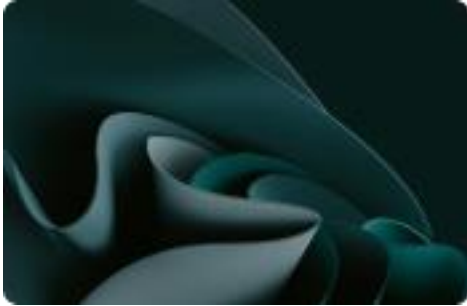


Life Cycle Analyses

PMPEG1



Summary



01 | Methodology



02 | Results

01

Methodology

Environmental Impact Assessment

<p>Functional unit</p>	<p>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.</p>
<p>Impact Indicator</p>	<p>The impact is measured through the "IPCC 2021 GWP100" method</p>
<p>Electricity impact calculation method</p>	<p>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.</p>
<p>Life Cycle Analyses</p>	<p>Cradle to grave</p>

Emission Factor Inventory

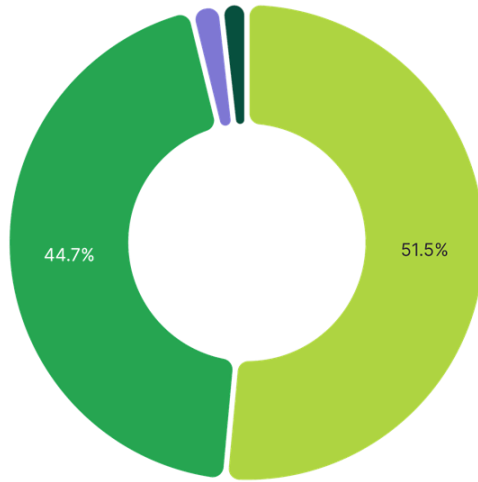
Num	Emission Factor	Source	Value	Unit
1	Adhesive tape	INTERNATIONAL EPD SYSTEM 1.0	3.04	kg
2	Steel, low-alloyed Ordinary transforming activity	ECOINVENT 3.10	2.203301567	kg
3	Aluminium, primary, ingot Ordinary transforming activity	ECOINVENT 3.10	7.605623188	kg
4	Electricity Total (Scope 2 & 3) People's Republic of China	IEA 2023	0.7231	kWh
5	Freight Boat From CN to FR Waste	WELOW EXPERTS 1.0	0.25227278	kg
6	polyethylene/polypropylene product Ordinary transforming activity	ECOINVENT 3.10	1.783532575	kg
7	Waste reinforcement steel Ordinary transforming activity	ECOINVENT 3.10	0.06273427595	kg
8	Waste aluminium Ordinary transforming activity	ECOINVENT 3.10	0.02555404932	kg

02

Results

Peg

Climate Change

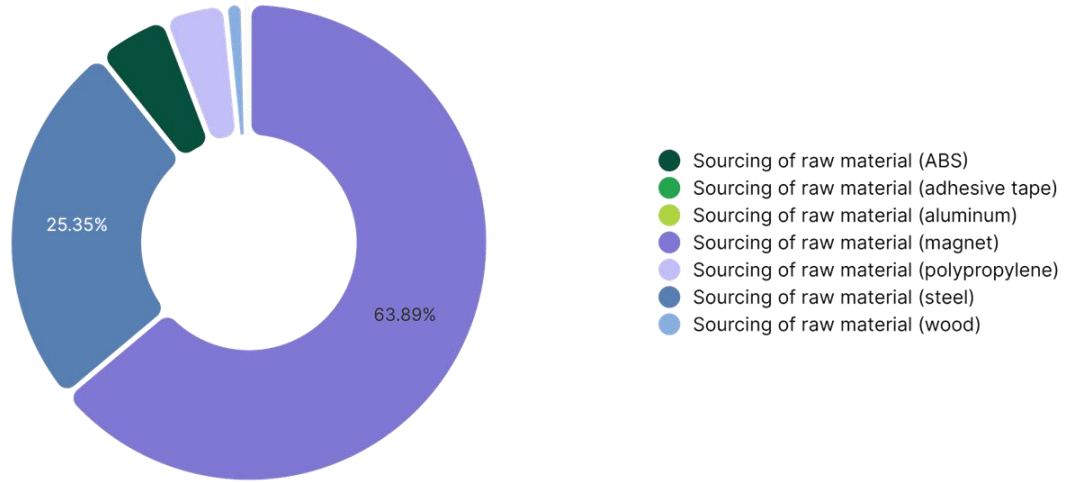


- End-of-Life Treatment
- Manufacturing
- Raw Material Extraction and Processing
- Transportation and Distribution

Step	Impact (kg CO ₂ eq)	Percentage (%)
Manufacturing	0.56	51.26 %
Raw Material Extraction and Processing	0.49	44.45 %
Transportation and Distribution	0.03	2.29 %
End-of-Life Treatment	0.02	2.00 %
TOTAL	1,1	100.00 %

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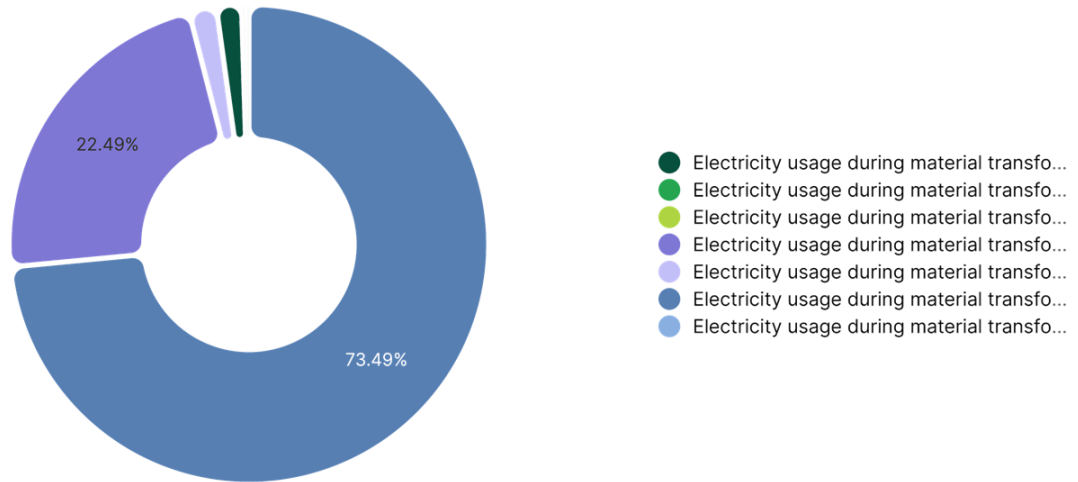
Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Sourcing of raw material (aluminum)	3	0.04	334.65	68.40 %
Sourcing of raw material (steel)	2	0.06	121.18	24.77 %
Sourcing of raw material (adhesive tape)	1	0.01	33.44	6.83 %
TOTAL			489.27	100.00 %

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Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (steel)	4	0.42	305.31	54.10 %
Electricity usage during material transformation (aluminum)	4	0.34	244.25	43.28 %
Electricity usage during material transformation (adhesive tape)	4	0.02	14.76	2.62 %
TOTAL			564.32	100.00 %

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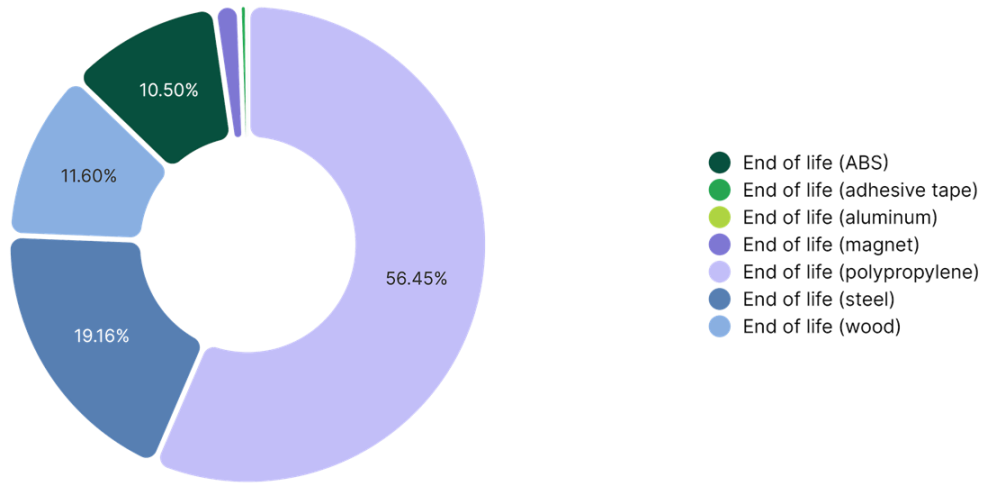
Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
Freight	5	0.1	25.23	100.00 %
TOTAL			25.23	100.00 %

Peg

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
End of life (adhesive tape)	6	0.01	17.84	81.09 %
End of life (steel)	7	0.05	3.14	14.26 %
End of life (aluminum)	8	0.04	1.02	4.65 %
TOTAL			21.99	100.00 %

