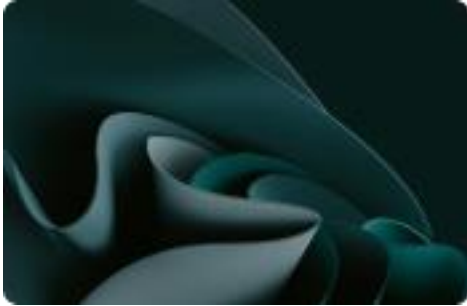


Life Cycle Analyses

MHARMFD N



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

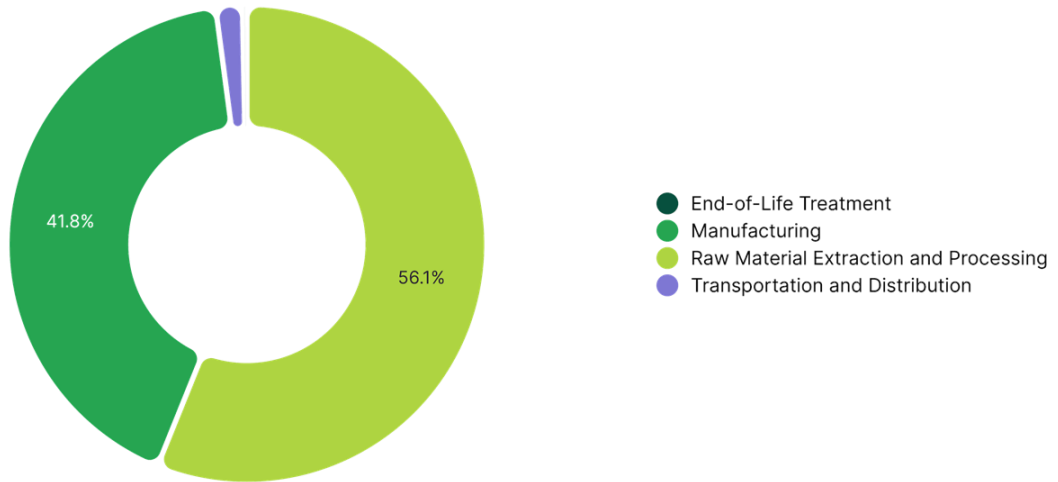
Num	Emission Factor	Source	Value	Unit
1	market for cast iron	ECOINVENT 3.10	1.93542914	kg
2	Acrylonitrile-butadiene-styrene copolymer Ordinary transforming activity	ECOINVENT 3.10	4.533718346	kg
3	Aluminium, primary, ingot Ordinary transforming activity	ECOINVENT 3.10	7.605623188	kg
4	Electricity Total (Scope 2 & 3) People's Republic of China	IEA 2023	0.7231	kWh
5	Freight Boat From CN to FR	WELOW EXPERTS 1.0	0.25227278	kg
6	Residues, MSWI, waste plastic, consumer electronics Ordinary transforming activity	ECOINVENT 3.10	0.3620299477	kg
7	Waste disposal Metal Average	UK GHG CONVERSION FACTOR 2024	0.0191	kg
8	Waste aluminium Ordinary transforming activity	ECOINVENT 3.10	0.02555404932	kg

02

Results

Monitor arm

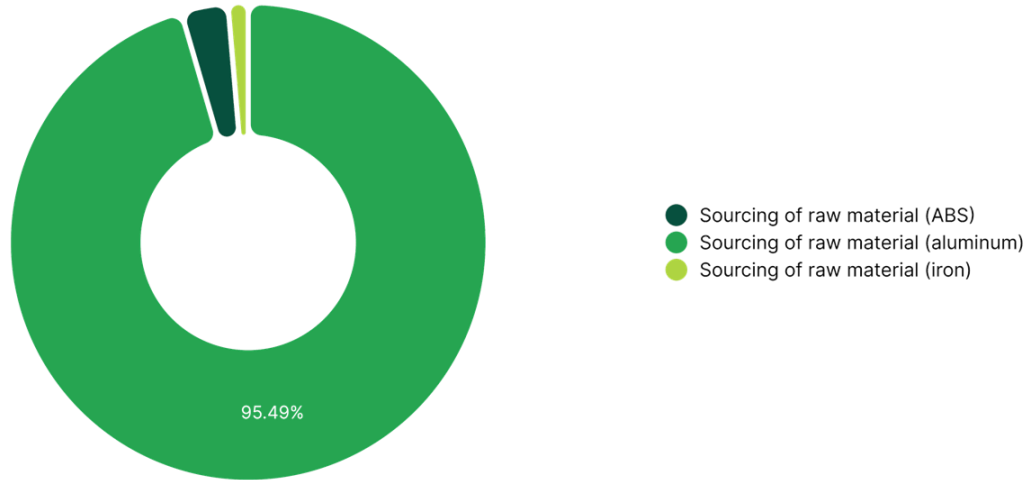
Climate Change



Step	Impact (kg CO ₂ eq)	Percentage (%)
Raw Material Extraction and Processing	35.48	56.11 %
Manufacturing	26.44	41.80 %
Transportation and Distribution	1.14	1.79 %
End-of-Life Treatment	0.19	0.30 %
TOTAL	63,24	100.00 %

Monitor arm

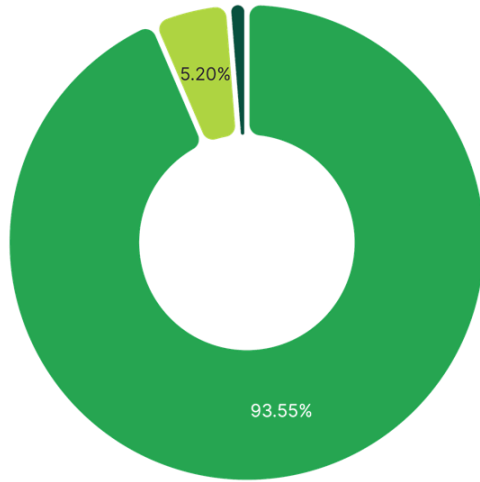
Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Sourcing of raw material (aluminum)	3	4.46	33.88	95.49 %
Sourcing of raw material (ABS)	2	0.25	1.12	3.16 %
Sourcing of raw material (iron)	1	0.25	0.48	1.35 %
TOTAL			35.48	100.00 %

Monitor arm

Climate Change - Manufacturing

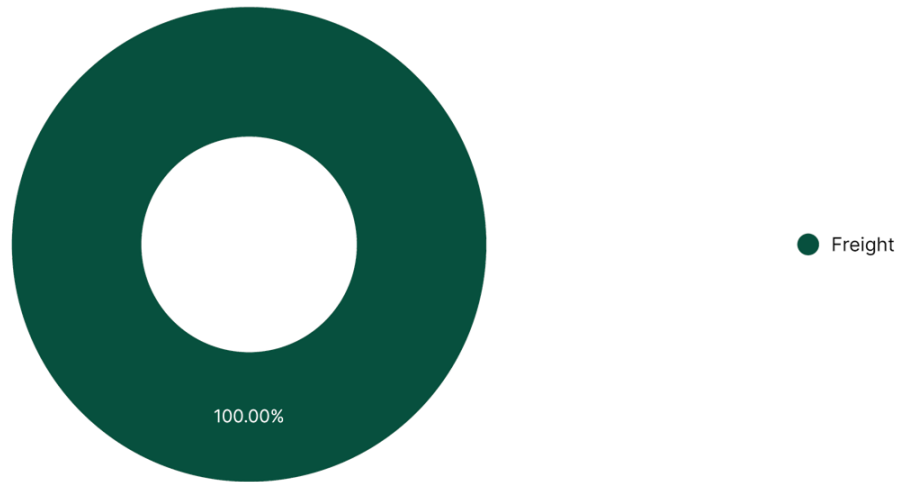


- Electricity usage during material transfo...
- Electricity usage during material transfo...
- Electricity usage during material transfo...

Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Electricity usage during material transformation (aluminum)	4	34.2	24.73	93.55 %
Electricity usage during material transformation (iron)	4	1.9	1.37	5.20 %
Electricity usage during material transformation (ABS)	4	0.46	0.33	1.26 %
TOTAL			26.44	100.00 %

Monitor arm

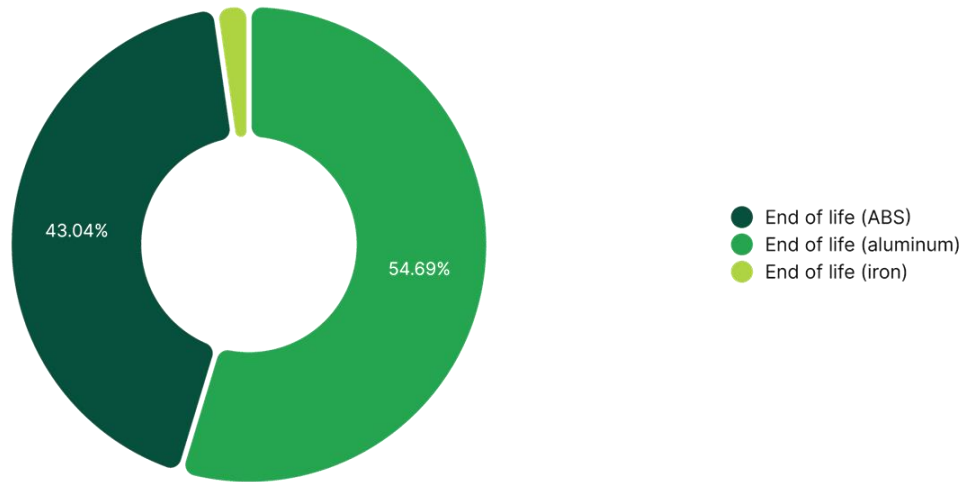
Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (kg CO ₂ eq)	Percentage (%)
Freight	5	4.5	1.14	100.00 %
TOTAL			1.14	100.00 %

Monitor arm

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (g CO ₂ eq)	Percentage (%)
End of life (aluminum)	8	4.05	103.49	54.69 %
End of life (ABS)	6	0.23	81.46	43.04 %
End of life (iron)	7	0.23	4.3	2.27 %
TOTAL			189.25	100.00 %

