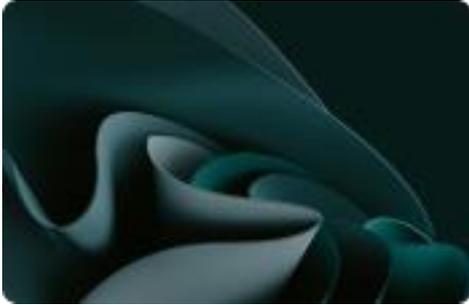


Life Cycle Analyses

MOBI3M



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

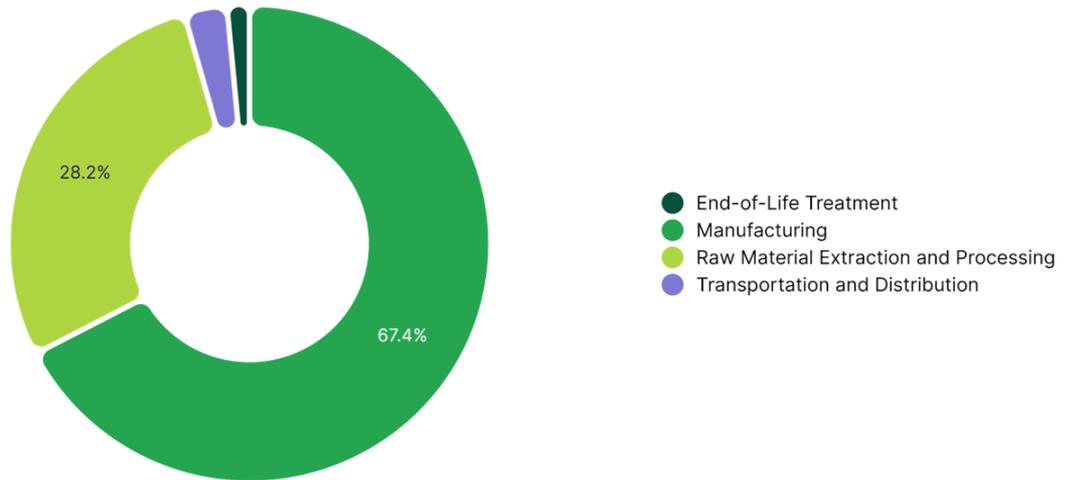
| Num | Emission Factor | Source | Value | Unit |
|-----|---|-------------------|-------|------|
| 1 | Steel, low-alloyed Ordinary transforming activity | ECOINVENT 3.10 | 2.20 | kg |
| 2 | Polypropylene, granulate Market activity | ECOINVENT 3.10 | 3.52 | kg |
| 3 | Electricity Total (Scope 2 & 3) People's Republic of China | IEA 2023 | 0.72 | kWh |
| 4 | Freight Boat From CN to FR | WELOW EXPERTS 1.0 | 0.25 | kg |
| 5 | Waste reinforcement steel Ordinary transforming activity | ECOINVENT 3.10 | 0.06 | kg |
| 6 | Waste polyethylene/polypropylene product Ordinary transforming activity | ECOINVENT 3.10 | 1.78 | kg |

02

Results

Metallic shelves

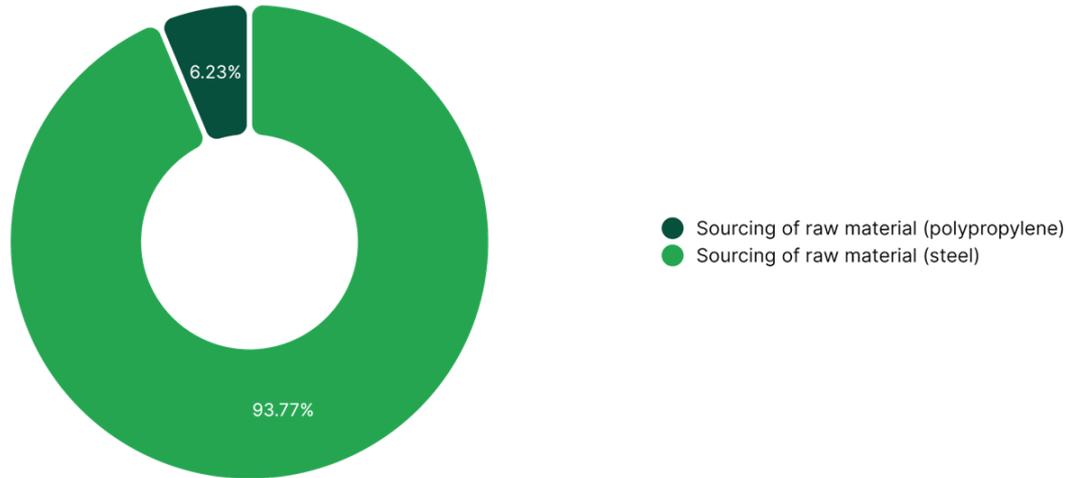
Climate Change



| Step | Impact (kg CO ₂ eq) | Percentage (%) |
|--|--------------------------------|-----------------|
| Manufacturing | 44.41 | 67.39 % |
| Raw Material Extraction and Processing | 18.61 | 28.24 % |
| Transportation and Distribution | 1.89 | 2.87 % |
| End-of-Life Treatment | 0.99 | 1.50 % |
| TOTAL | 65.9 | 100.00 % |

Metalic shelves

Climate Change - Raw Material Extraction and Processing



| Activity | Emission Factor Num | Quantity | Unité | Impact (kg CO ₂ eq) | Percentage (%) |
|--|---------------------|----------|-------|--------------------------------|----------------|
| Sourcing of raw material (steel) | 1 | 7.92 | kg | 17.45 | 93.77 % |
| Sourcing of raw material (polypropylene) | 2 | 0.33 | kg | 1.16 | 6.23 % |

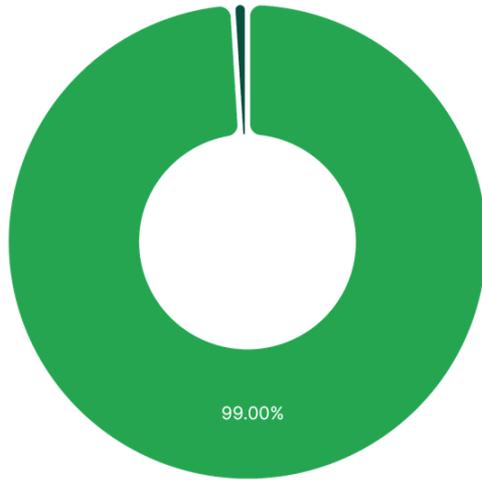
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| TOTAL | | | | 18.61 | 100.00 % |
|-------|--|--|--|-------|----------|

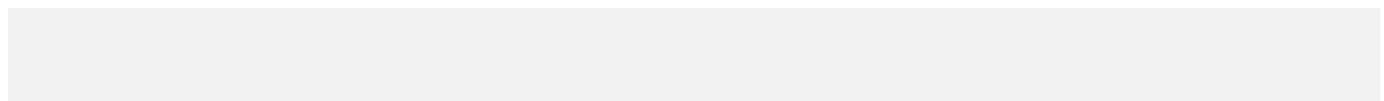
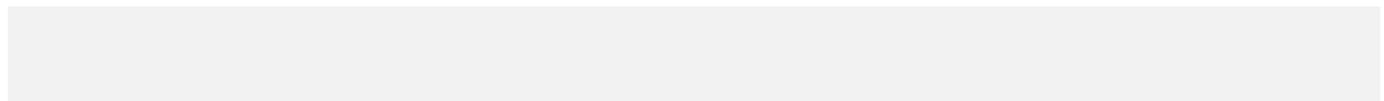
Metalic shelves

Climate Change - Manufacturing



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

| Activity | Emission Factor Num | Quantity | Unité | Impact (kg CO ₂ eq) | Percentage (%) |
|--|---------------------|----------|-------|--------------------------------|----------------|
| Electricity usage during material transformation (steel) | 3 | 60.8 | kWh | 43.96 | 99.00 % |
| Electricity usage during material transformation (polypropylene) | 3 | 0.61 | kWh | 0.44 | 1.00 % |



| | | | | | |
|-------|--|--|--|-------|----------|
| TOTAL | | | | 44.41 | 100.00 % |
|-------|--|--|--|-------|----------|

Metalic shelves

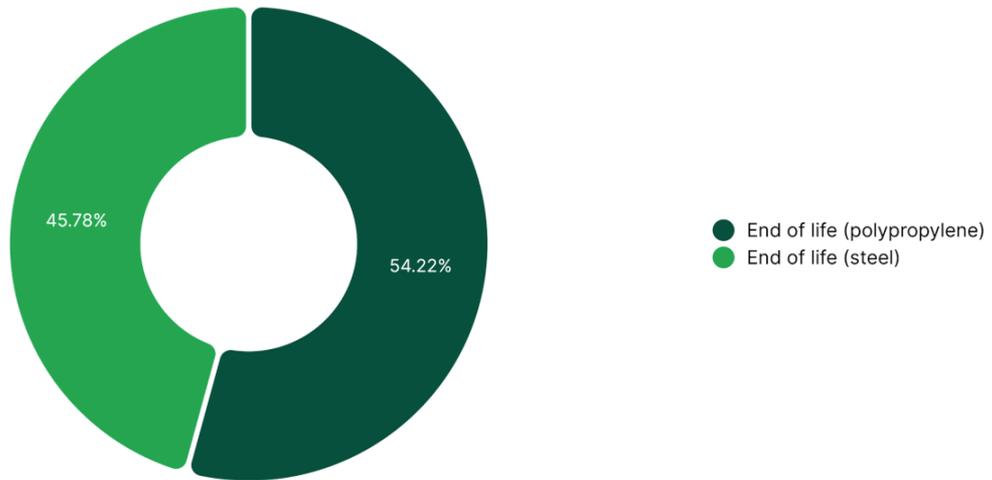
Climate Change - Transportation and Distribution



| Activity | Emission Factor Num | Quantity | Unité | Impact (kg CO ₂ eq) | Percentage (%) | |
|----------|---------------------|----------|-------|--------------------------------|----------------|----------|
| Freight | 4 | 7.5 | kg | 1.89 | 100.00 % | |
| TOTAL | | | | | 1.89 | 100.00 % |

Metallic shelves

Climate Change - End-of-Life Treatment



| Activity | Emission Factor Num | Quantity | Unité | Impact (g CO ₂ eq) | Percentage (%) |
|-----------------------------|---------------------|----------|-------|-------------------------------|----------------|
| End of life (polypropylene) | 6 | 0.3 | kg | 535.06 | 54.22 % |
| End of life (steel) | 5 | 7.2 | kg | 451.69 | 45.78 % |

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| TOTAL | | | | 986.75 | 100.00 % |
|-------|--|--|--|--------|----------|

