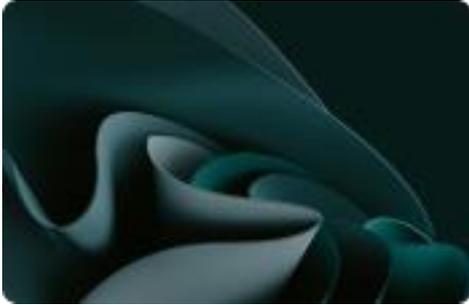


# Life Cycle Analyses

DD5GMW BC



# Summary



**01** | Methodology



**02** | Results

# 01

## Methodology

# Environmental Impact Assessment

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

# Emission Factor Inventory

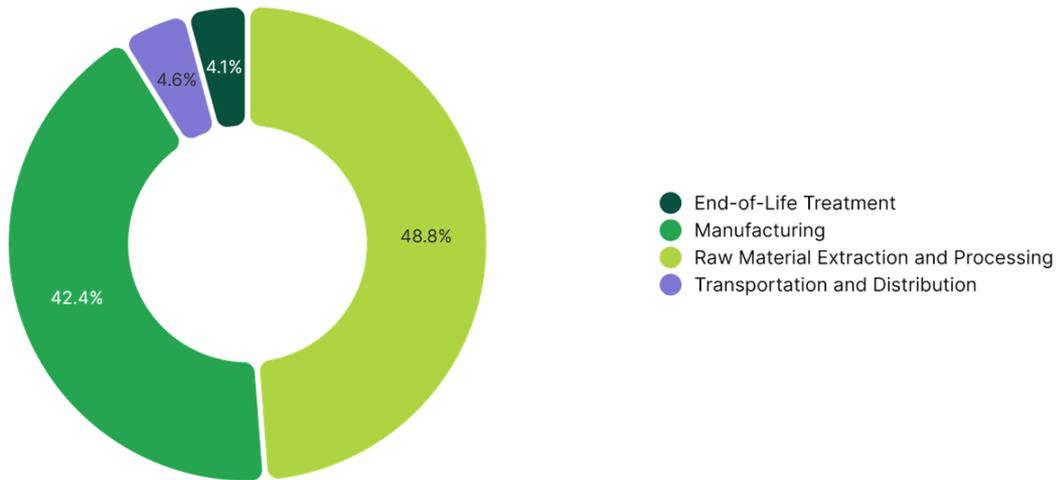
Num	Emission Factor	Source	Value	Unit
1	Acrylonitrile-butadiene-styrene copolymer   Ordinary transforming activity	ECOINVENT 3.10	4.533718346	kg
2	Steel, low-alloyed   Ordinary transforming activity	ECOINVENT 3.10	2.364612691	kg
3	Softwood lumber   1kg   unspecified	BASE EMPREINTE ADEME 3.0	0.621811	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	Tinplate scrap, sorted   Ordinary transforming activity	ECOINVENT 3.10	0.03352378077	kg
7	Packaging - Wood - Average end of life in the EPR scheme - Impacts	BASE CARBONE ADEME 22.0	0.269	kg
8	Residues, MSWI, waste plastic, consumer electronics   Ordinary transforming activity	ECOINVENT 3.10	0.3620299477	kg

# 02

Results

Floor Litterature Display

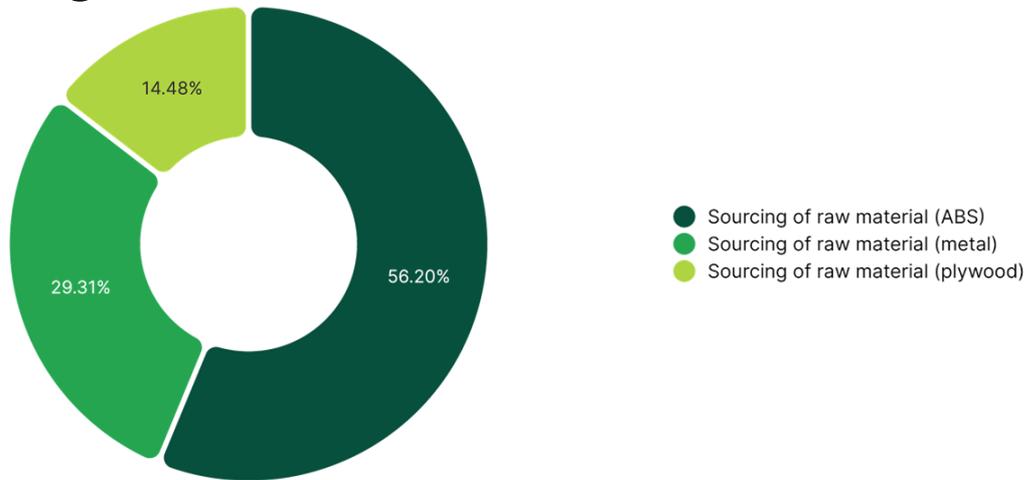
# Climate Change



Step	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Raw Material Extraction and Processing	28.83	48.79 %
Manufacturing	25.08	42.44 %
Transportation and Distribution	2.73	4.62 %
End-of-Life Treatment	2.45	4.15 %
<b>TOTAL</b>	<b>59,09</b>	<b>100.00 %</b>

Floor Litterature Display

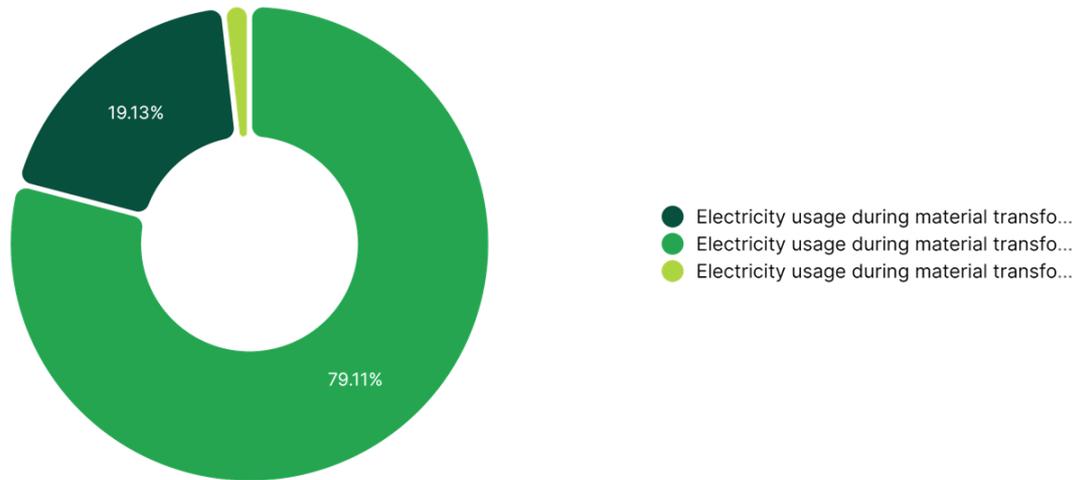
# Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Sourcing of raw material (ABS)	1	3.57	16.2	56.20 %
Sourcing of raw material (metal)	2	3.57	8.45	29.31 %
Sourcing of raw material (plywood)	3	6.71	4.18	14.48 %
TOTAL			28.83	100.00 %

Floor Litterature Display

# Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Electricity usage during material transformation (metal)	4	27.44	19.84	79.11 %
Electricity usage during material transformation (ABS)	4	6.63	4.8	19.13 %
Electricity usage during material transformation (plywood)	4	0.61	0.44	1.76 %
TOTAL			25.08	100.00 %

Floor Litterature Display

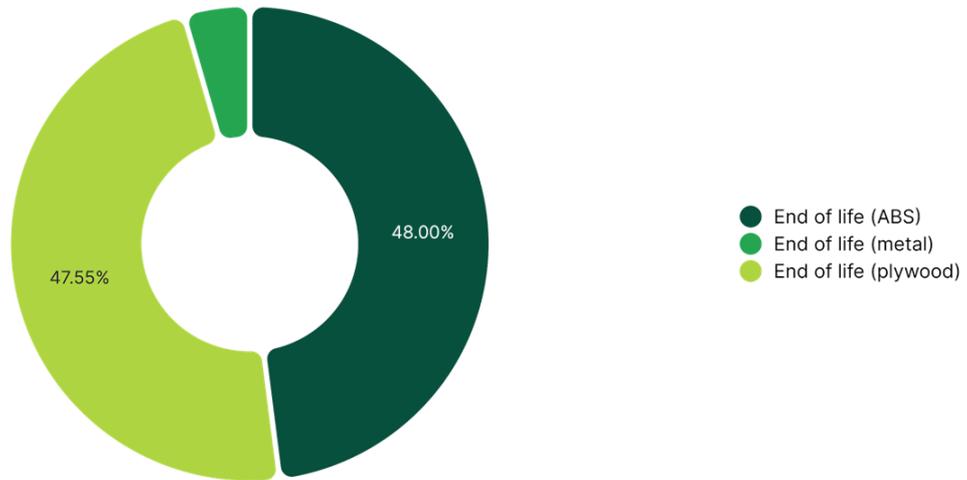
# Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Freight	5	10.83	2.73	100.00 %
TOTAL			2.73	100.00 %

Floor Litterature Display

# Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
End of life (ABS)	8	3.25	1.18	48.00 %
End of life (plywood)	7	4.33	1.17	47.55 %
End of life (metal)	6	3.25	0.11	4.44 %
TOTAL			2.45	100.00 %

