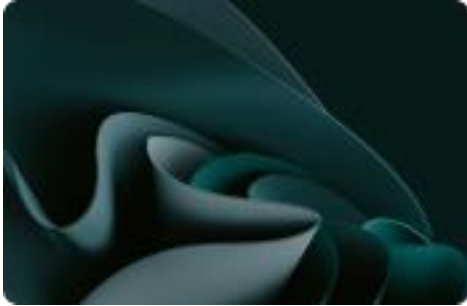


# Life Cycle Analyses

MESHWALLFRAN



# 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

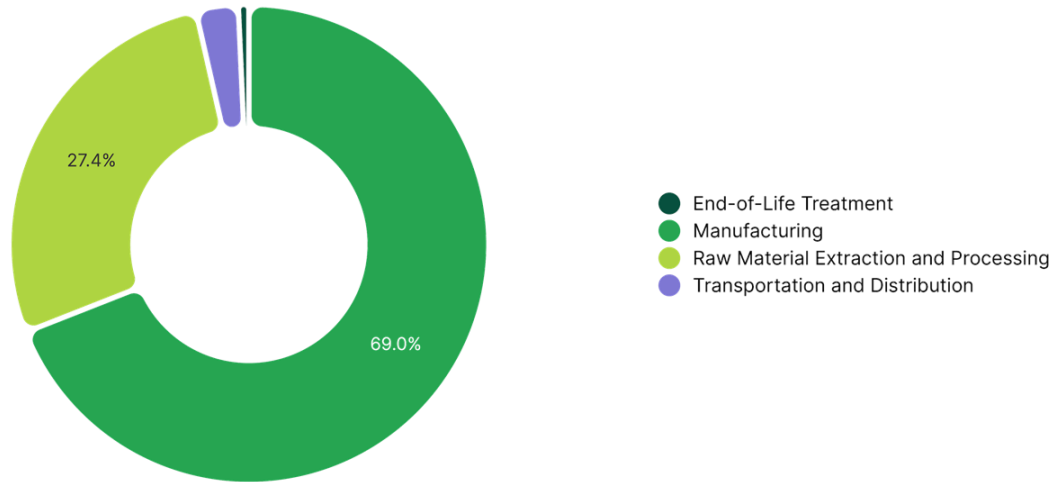
Num	Emission Factor	Source	Value	Unit
1	Steel, low-alloyed   Ordinary transforming activity	ECOINVENT 3.10	2.203301567	kg
2	Electricity   Total (Scope 2 & 3)   People's Republic of China	IEA 2023	0.7231	kWh
3	Freight   Boat   From CN to FR	WELOW EXPERTS 1.0	0.25227278	kg
4	Waste reinforcement steel   Ordinary transforming activity	ECOINVENT 3.10	0.06273427595	kg

# 02

Results

Wall literature Display

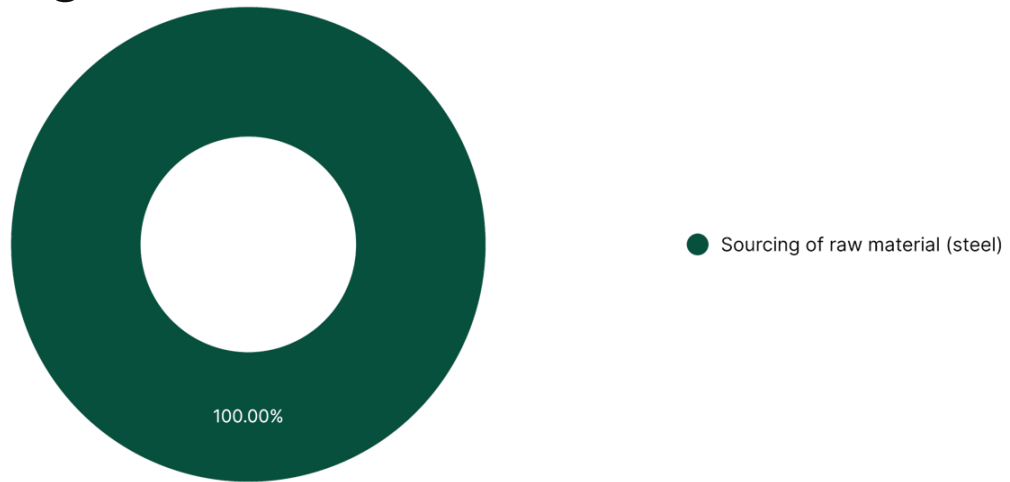
# Climate Change



Step	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Manufacturing	9.16	69.04 %
Raw Material Extraction and Processing	3.64	27.40 %
Transportation and Distribution	0.38	2.85 %
End-of-Life Treatment	0.09	0.71 %
<b>TOTAL</b>	<b>{{totalImpact}}</b>	<b>100.00 %</b>

Wall literature Display

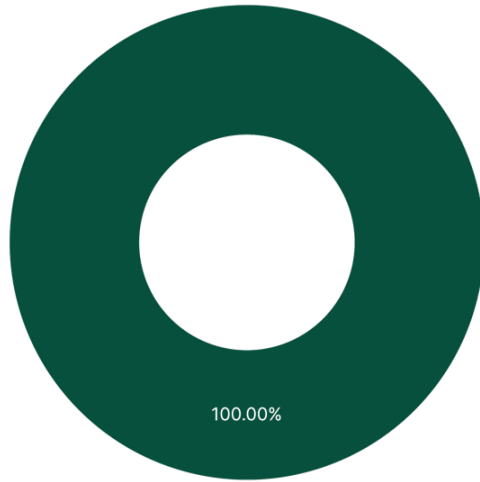
# Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Sourcing of raw material (steel)	1	1.65	3.64	100.00 %
TOTAL			3.64	100.00 %

Wall literature Display

# Climate Change - Manufacturing

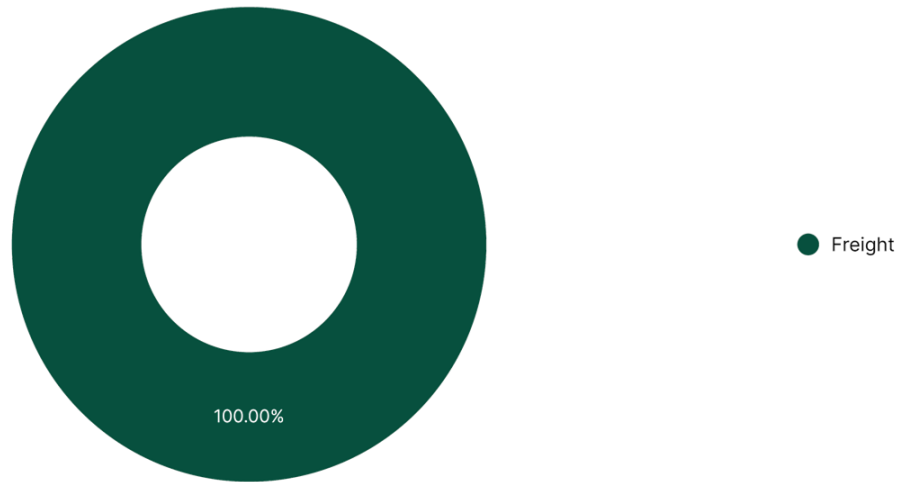


● Electricity usage during material transfo...

Activity	Emission Factor Num	Quantity	Impact (kg CO <sub>2</sub> eq)	Percentage (%)
Electricity usage during material transformation (steel)	2	12.67	9.16	100.00 %
TOTAL			9.16	100.00 %

Wall literature Display

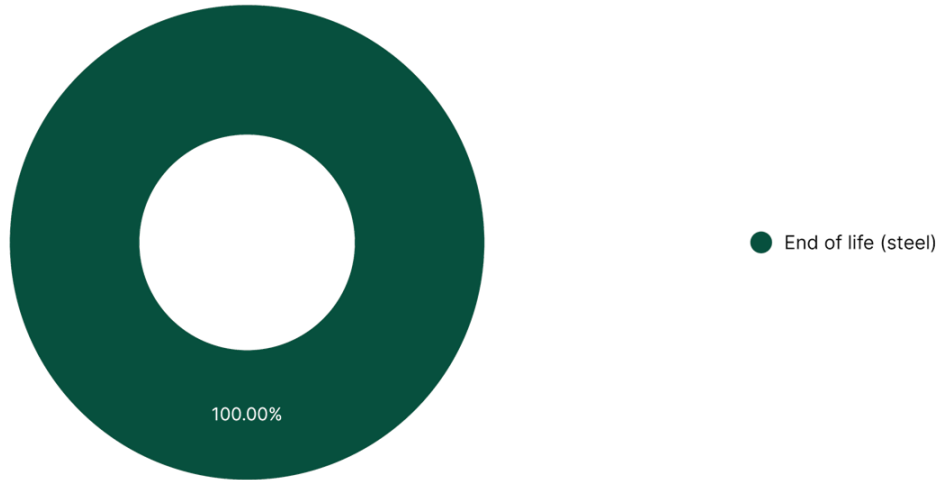
# Climate Change - Transportation and Distribution



Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
Freight	3	1.5	378.41	100.00 %
TOTAL			378.41	100.00 %

Wall literature Display

# Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (g CO <sub>2</sub> eq)	Percentage (%)
End of life (steel)	4	1.5	94.1	100.00 %
TOTAL			94.1	100.00 %

