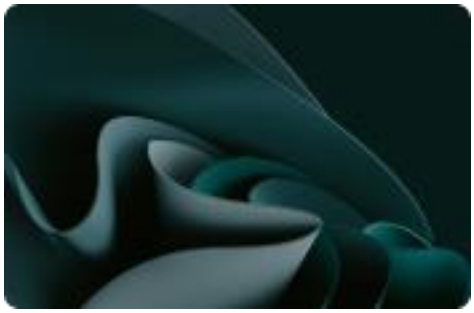
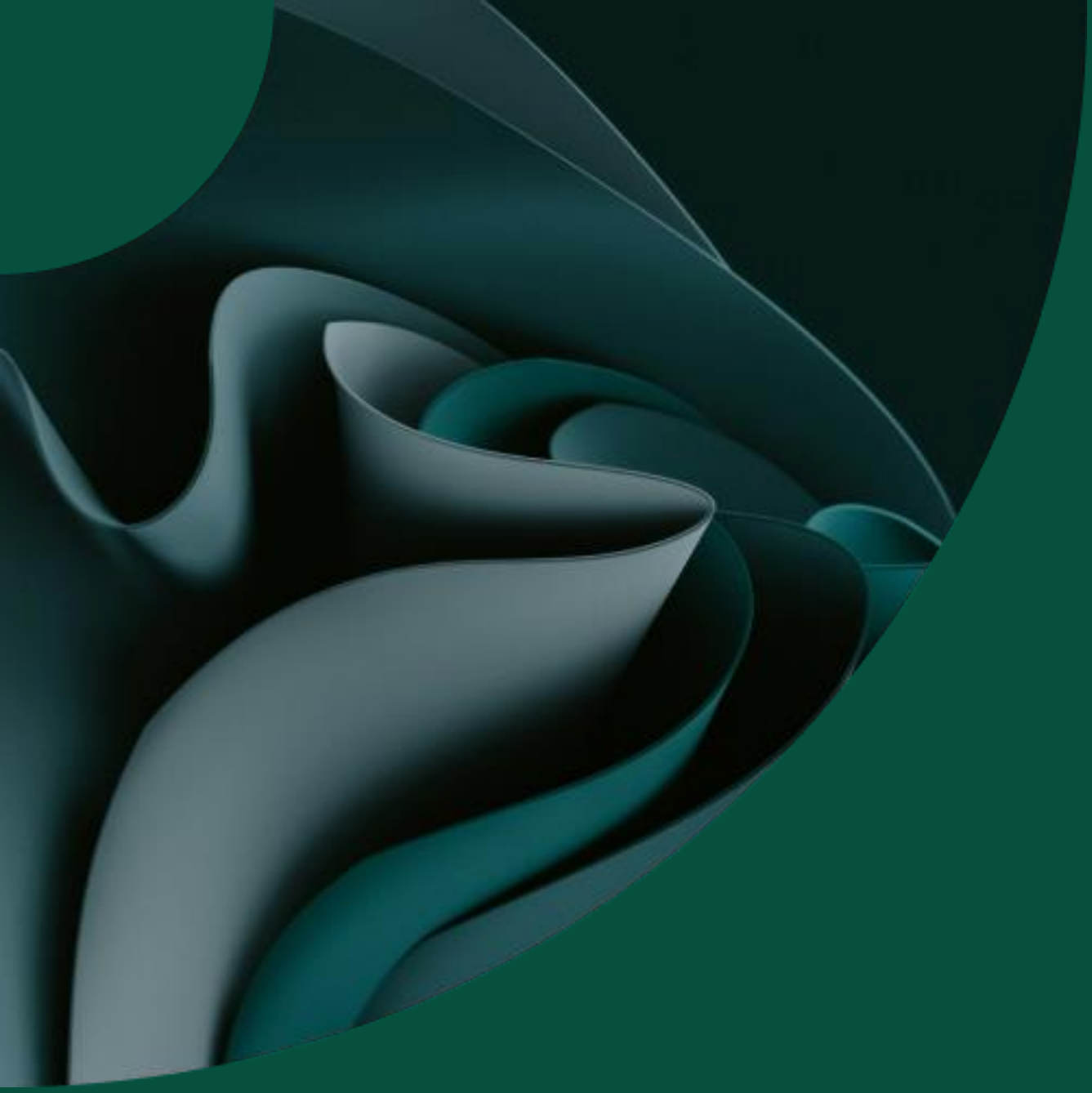
Life Cycle Analyses

DOORSTOP BK

Summary





01 Methodology

Environmental Impact Assessment

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

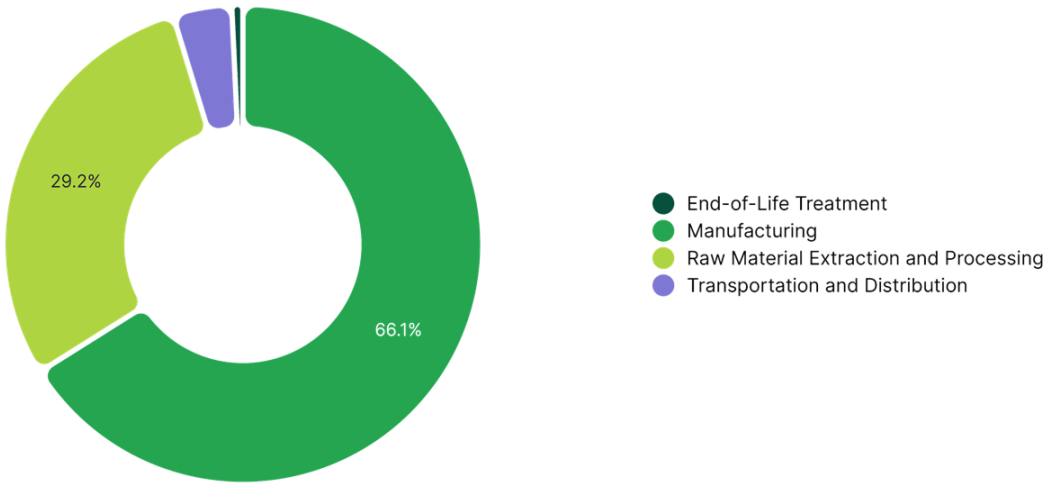
Emission Factor Inventory

Num	Emission Factor	Source	Value	Unit
1	market for cast iron	ECOINVENT 3.10	1.93542914	kg
2	Synthetic rubber | Ordinary transforming activity	ECOINVENT 3.10	2.877577391	kg
3	Natural stone plate, cut | Ordinary transforming activity	ECOINVENT 3.10	0.1200093679	kg
4	market for cement, Portland	ECOINVENT 3.10	0.944058408	kg
5	Electricity | Total (Scope 2 & 3) | People's Republic of China	IEA 2023	0.7231	kWh
6	Freight | Boat | From CN to FR	WELOW EXPERTS 1.0	0.25227278	kg
7	Residues, MSWI, waste rubber, unspecified | Ordinary transforming activity	ECOINVENT 3.10	0.3380807553	kg
8	Waste disposal | Metal | Average	UK GHG CONVERSION FACTOR 2024	0.0191	kg
9	market for inert waste	ECOINVENT 3.10	0.015324362	kg
10	treatment of waste cement-fibre slab, dismantled, municipal incineration	ECOINVENT 3.10	0.015293826	kg

02 Results

Door stop

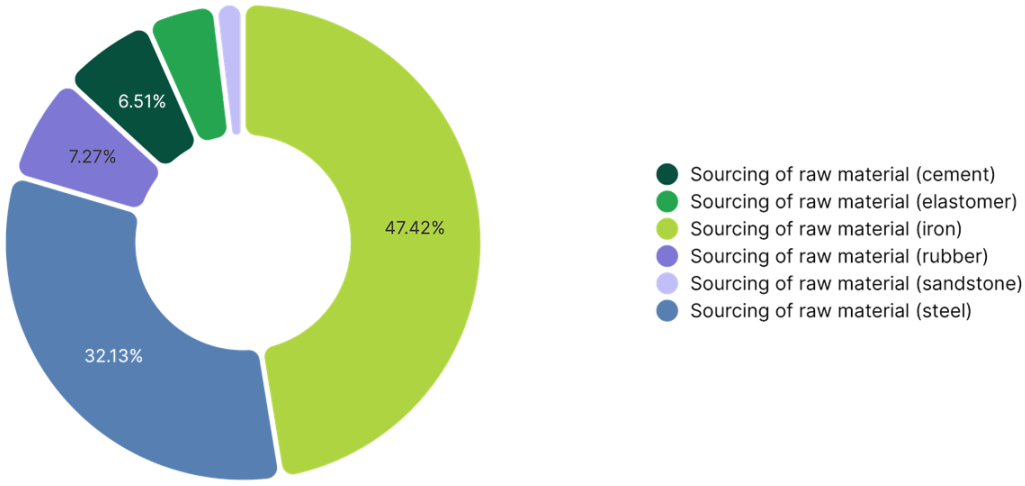
Climate Change



Step	Impact (kg CO_2 eq)	Percentage (%)
Manufacturing	4.37	66.84 %
Raw Material Extraction and Processing	1.86	28.40 %
Transportation and Distribution	0.28	4.24 %
End-of-Life Treatment	0.03	0.51 %
TOTAL	**6,54**	**100.00 %**

Door stop

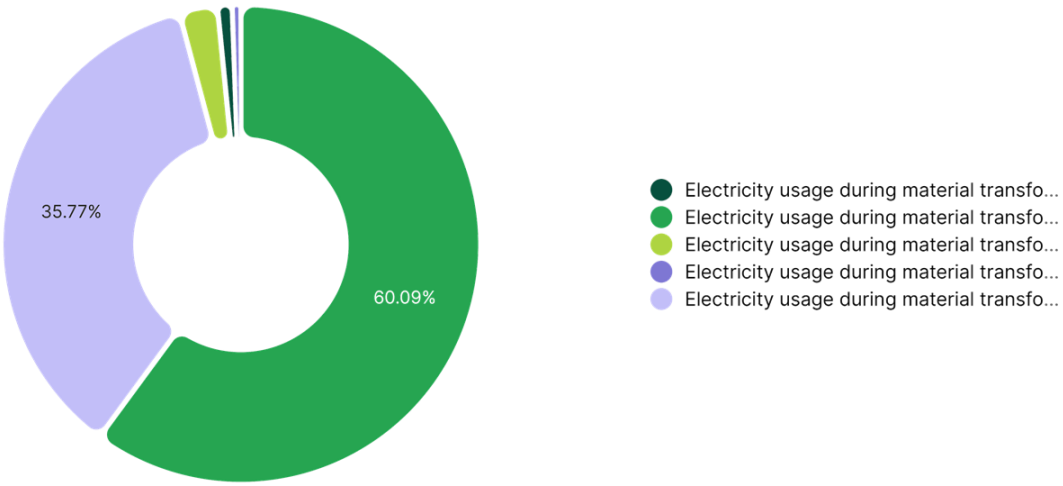
Climate Change - Raw Material Extraction and Processing



Activity	Emission Factor Num	Quantity	Impact (kg CO_2 eq)	Percentage (%)
Sourcing of raw material (iron)	1	0.76	1.48	79.46 %
Sourcing of raw material (cement)	4	0.21	0.2	10.91 %
Sourcing of raw material (rubber)	2	0.05	0.14	7.50 %
Sourcing of raw material (sandstone)	3	0.33	0.04	2.13 %
TOTAL			1.86	100.00 %

Door stop

Climate Change - Manufacturing



Activity	Emission Factor Num	Quantity	Impact (kg CO_2 eq)	Percentage (%)
Electricity usage during material transformation (iron)	5	5.85	4.23	96.82 %
Electricity usage during material transformation (rubber)	5	0.15	0.11	2.55 %
Electricity usage during material transformation (sandstone)	5	0.04	0.03	0.63 %
TOTAL			4.37	100.00 %

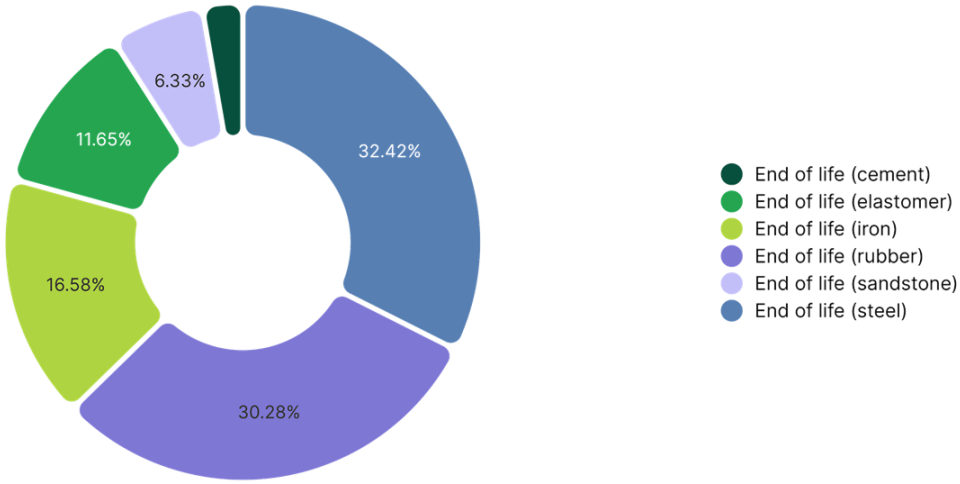
Door stop

Climate Change - Transportation and Distribution

Activity	Emission Factor Num	Quantity	Impact (g CO_2 eq)	Percentage (%)
Freight	6	1.1	277.5	100.00 %
TOTAL			277.5	100.00 %

Door stop

Climate Change - End-of-Life Treatment



Activity	Emission Factor Num	Quantity	Impact (g CO_2 eq)	Percentage (%)
End of life (rubber)	7	0.04	14.88	44.18 %
End of life (iron)	8	0.69	13.24	39.31 %
End of life (sandstone)	9	0.22	3.37	10.01 %
End of life (cement)	10	0.14	2.19	6.50 %
TOTAL			33.67	100.00 %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