

Building Construction and Operation Example

Analysis using MetaFlowScope™

Inputs: materials procured (quantities converted to kg)

<u>Item</u>	<u>Qty</u>	<u>Units</u>
Composite wood (I-joist)	324545.00	kilogram
Steel (recycled)	329242.00	kilogram
Steel (bar & rod - virgin)	254543.00	kilogram
Roofing (shingle)	280000.00	kilogram
Asphalt	3609091.00	kilogram
Concrete (foundation)	6996818.00	kilogram
Concrete (wall, poured-in-place)	6996818.00	kilogram
Bricks & stone	14881818.00	kilogram
Softwood	139091.00	kilogram
Hardwood	139091.00	kilogram

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Inputs: energy for construction

<u>Item</u>	<u>Qty</u>	<u>Units</u>
Energy:Electricity	7813.00	kWh
Energy:Diesel, combusted in industrial equipment	30512.00	L

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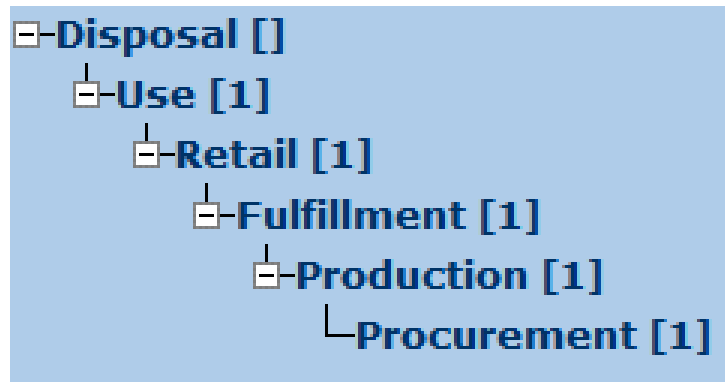
Inputs: energy for operation

<u>Item</u>	<u>Qty</u>	<u>Units</u>
Energy:Electricity	7200000.00	kWh
Energy:Natural gas, combusted in industrial equipment	720000.00	m3

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Value-chain model template (showing life-cycle stages)

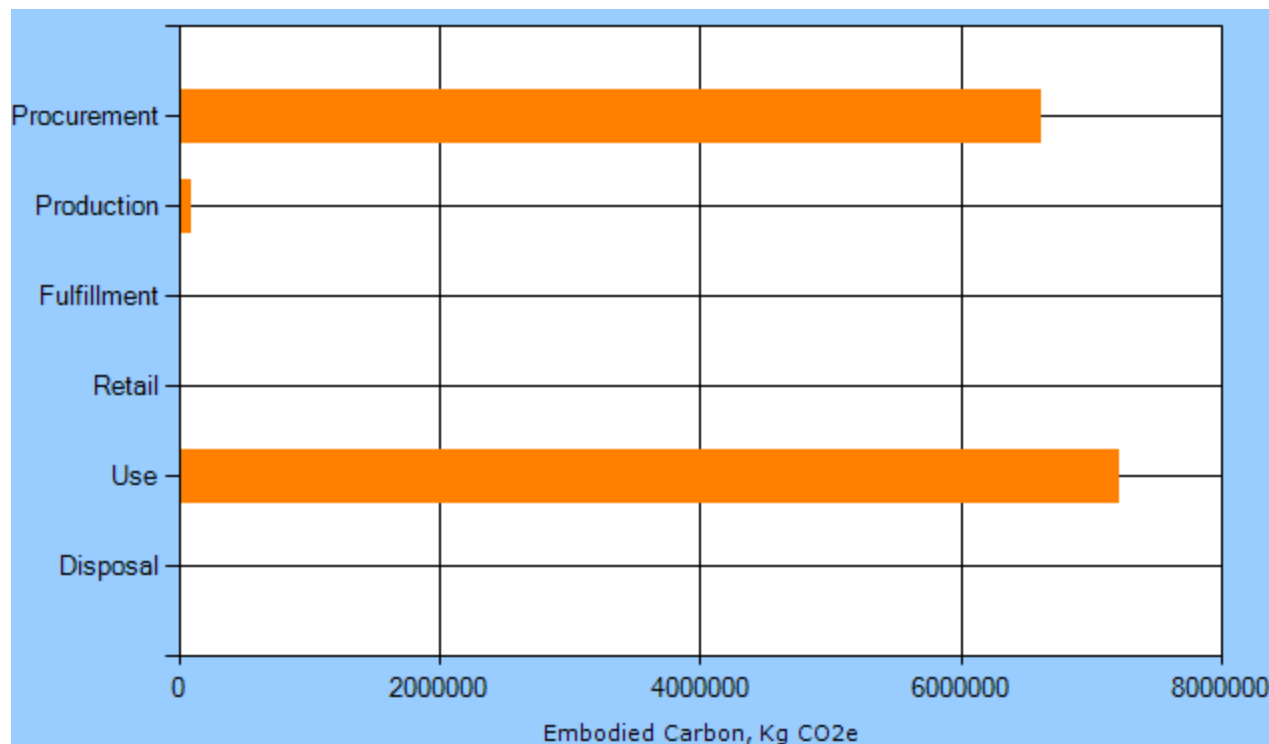


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Results by life-cycle stage

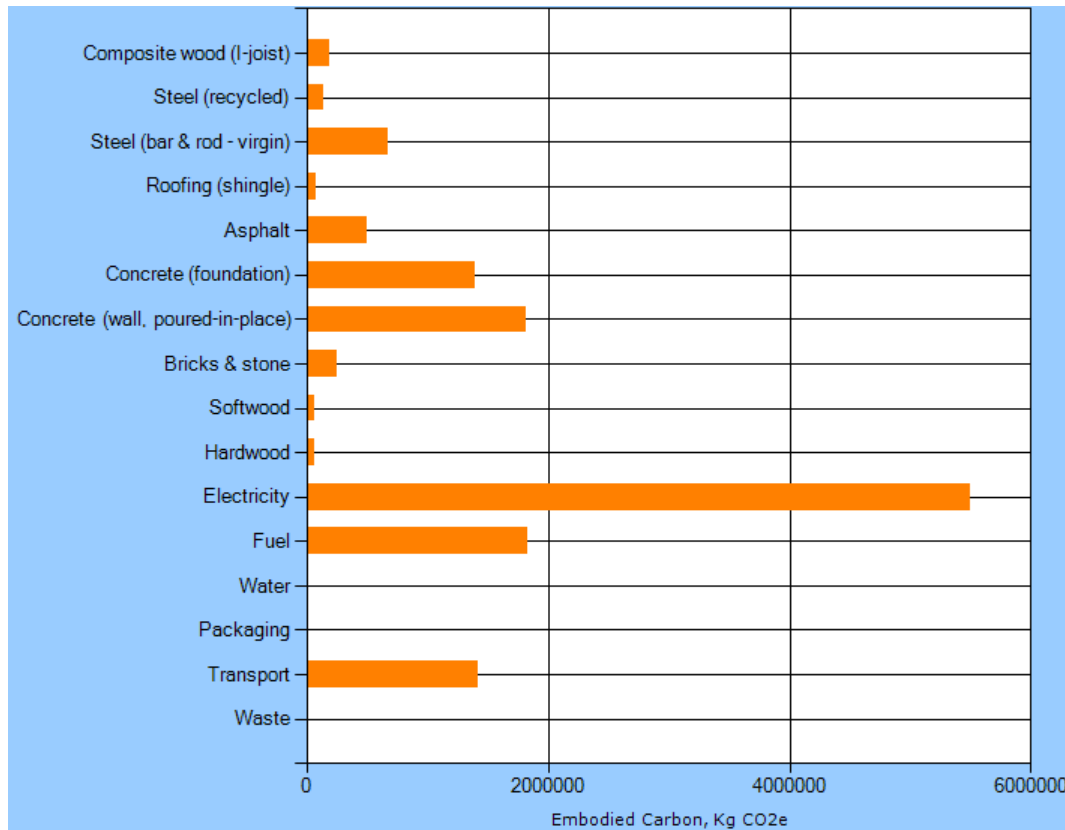
(end-of-life disposal excluded in this example; showing embodied carbon/GHG here – other views include embodied energy & water)



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Results by process



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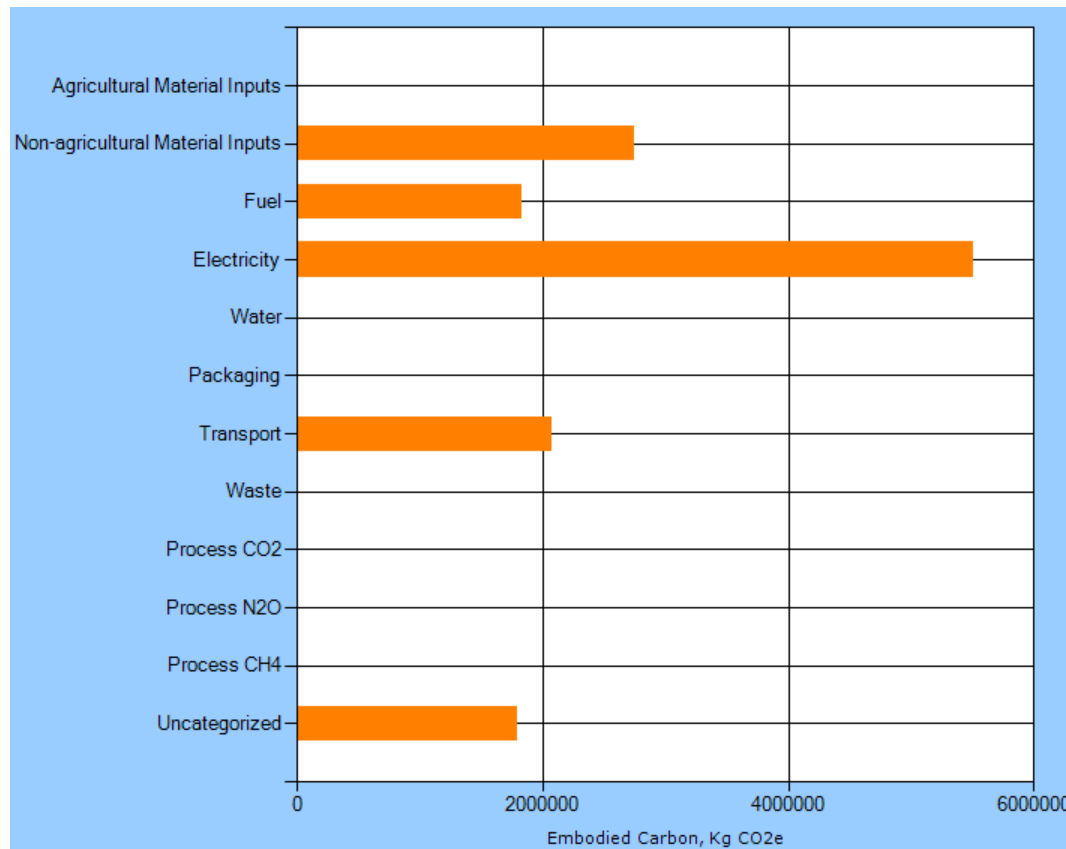
Results by model element (showing partial results, including emission scopes)

Model Element	Quantity	Unit	EE (MJ)	EW (L)	EC (Kg CO2e)	Scope	ScopeCategory
Composite wood (I-joist)	324545.000	kilogram	3497649.932	1114321.643	193582.791	3	1
Composite wood (I-joist):Semi-trailer truck	1000.000	km	320575.667	0.000	24414.307	3	4
Steel (recycled)	329242.000	kilogram	3127799.000	0.000	141574.060	3	1
Steel (recycled):Semi-trailer truck	2000.000	km	650430.441	0.000	49535.290	3	4
Steel (bar & rod - virgin)	254543.000	kilogram	9265365.200	0.000	682175.240	3	1
Steel (bar & rod - virgin):Semi-trailer truck	2000.000	km	502859.646	0.000	38296.637	3	4
Roofing (shingle)	280000.000	kilogram	3164000.000	0.000	84000.000	3	1
Roofing (shingle):Semi-trailer truck	2000.000	km	553150.945	0.000	42126.707	3	4

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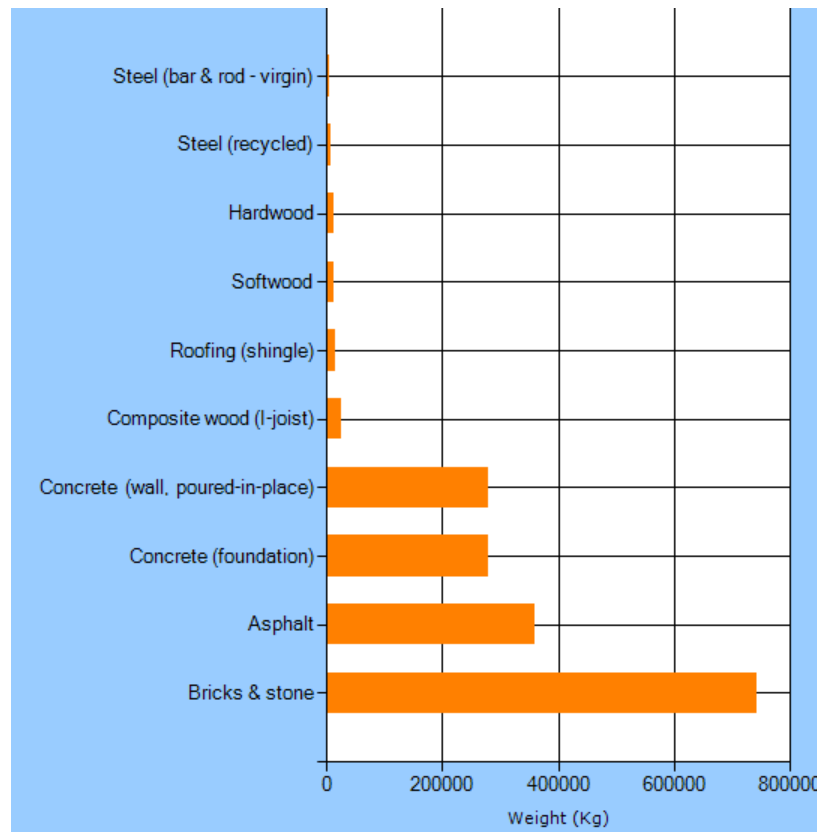
Results by emissions sources



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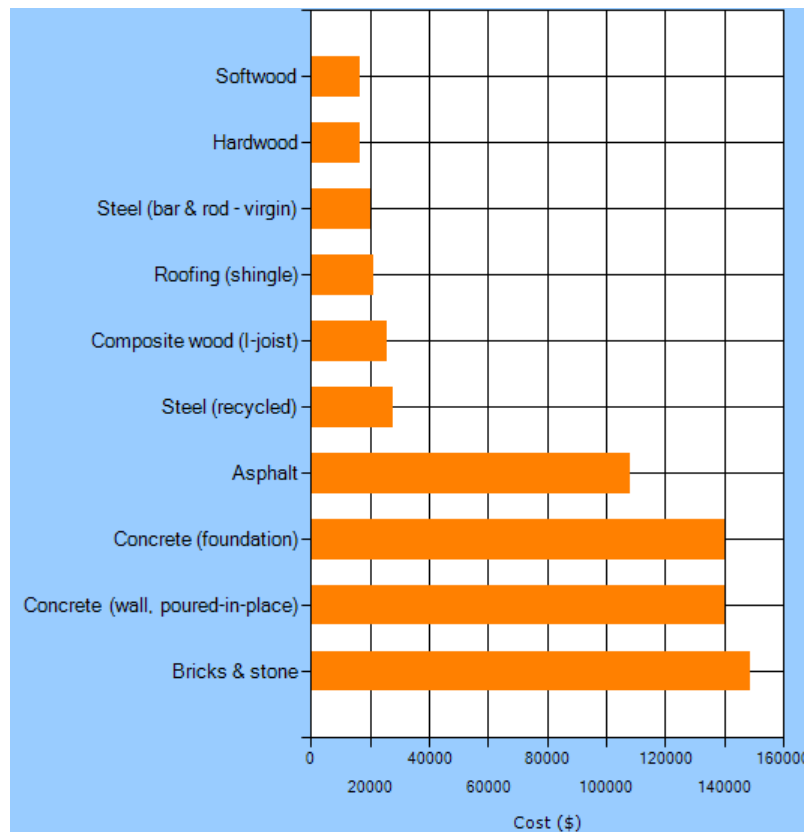
Materials flowing into waste stream (~5% average waste in this case)



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Analysis using MetaFlowScope™

Economic value of waste components



Building Construction and Operation Example

Analysis using MetaFlowScope™

Environmental value of waste components (choosing carbon as example)

