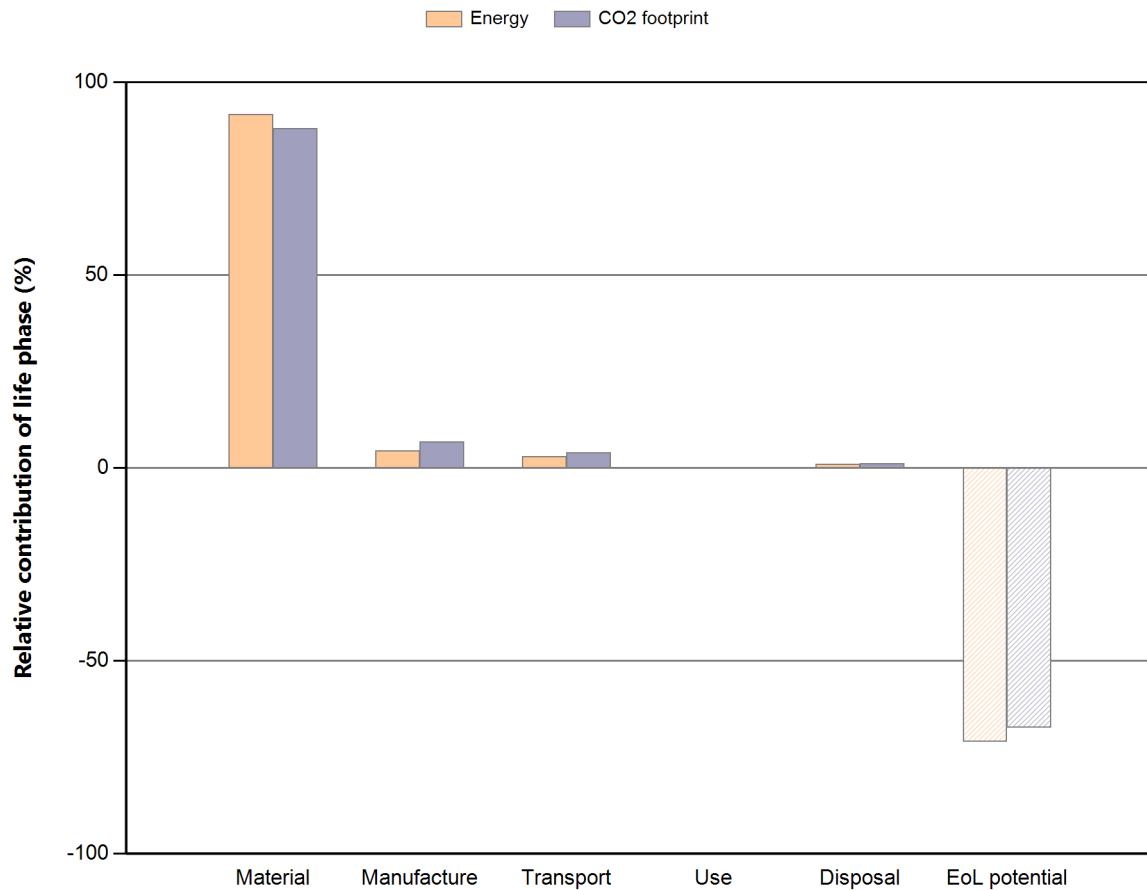


Product name: TimberNest Bench
 Country of use: Denmark
 Product life (years): 5

Summary:



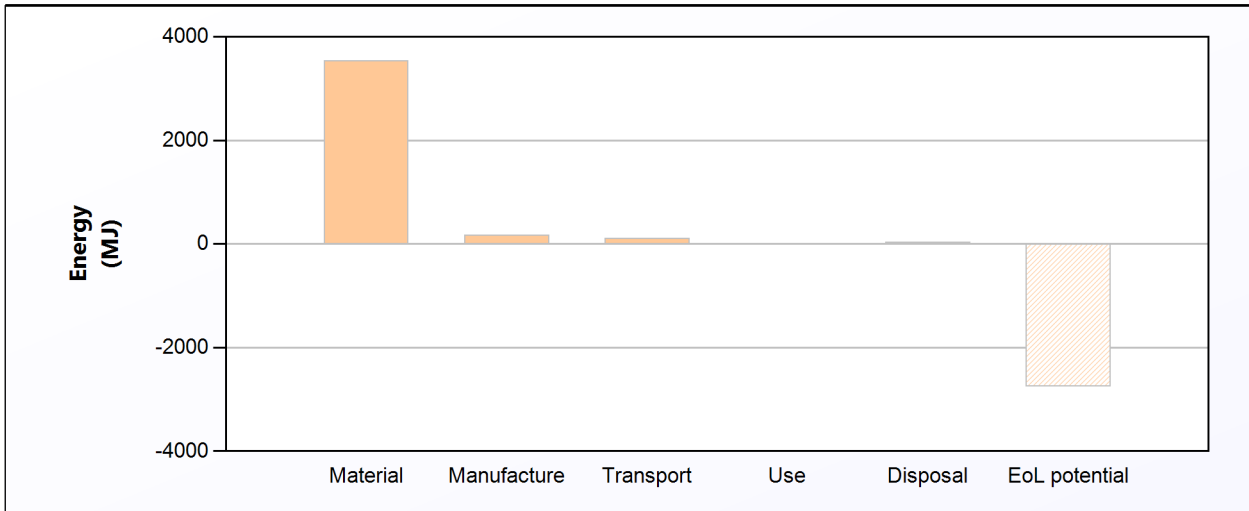
[Energy details](#)

[CO2 footprint details](#)

Phase	Energy (MJ)	Energy (%)	CO2 footprint (kg)	CO2 footprint (%)
Material	3.54e+03	91.7	178	88.1
Manufacture	173	4.5	13.6	6.7
Transport	113	2.9	8.13	4.0
Use	0	0.0	0	0.0
Disposal	34.6	0.9	2.43	1.2
Total (for first life)	3.86e+03	100	202	100
End of life potential	-2.74e+03		-136	

Energy Analysis

[Summary](#)



	Energy (MJ/year)
Equivalent annual environmental burden (averaged over 5 year product life):	773

Detailed breakdown of individual life phases

Material:

[Summary](#)

Component	Material	Recycled content* (%)	Part mass (kg)	Qty.	Total mass processed** (kg)	Energy (MJ)	%
Plywood Sheet	Birch (betula verrucosa) (t)	Virgin (0%)	47	1	67	8.2e+02	23.2
Wood Plank	Oak (quercus spp.) (l)	Virgin (0%)	0.75	150	1.6e+02	2e+03	55.4
Screws	Stainless steel, ferritic, AISI 446, annealed	Virgin (0%)	0.003	280	0.84	41	1.2
Steel fenders	Stainless steel, ferritic, AISI 446, annealed	Virgin (0%)	2	2	4	2e+02	5.5
Rubber fenders	Ethylene propylene (diene) (EPDM/EPM, unreinforced)	Virgin (0%)	3.4	2	6.7	5.2e+02	14.7
Stainless Steel bolts	Stainless steel, ferritic, AISI 446, annealed	Virgin (0%)	0.003	10	0.03	1.5	0.0
Total				445	2.4e+02	3.5e+03	100

*Typical: Includes 'recycle fraction in current supply'

**Where applicable, includes material mass removed by secondary processes

Manufacture:[Summary](#)

Component	Process	% Removed	Amount processed	Energy (MJ)	%
Plywood Sheet	Cutting and trimming	30	20 kg	6	3.5
Wood Plank	Cutting and trimming	30	48 kg	14	8.3
Screws	Forging	-	0.84 kg	2.6	1.5
Steel fenders	Forging	-	4 kg	12	7.0
Rubber fenders	Polymer molding	-	6.7 kg	1.2e+02	67.0
Rubber fenders	Cutting and trimming	-	0 kg	0	0.0
Stainless Steel bolts	Forging	-	0.03 kg	0.092	0.1
Assembly of plywood	Fasteners, small	-	46	1.3	0.7
Assembly of planks	Fasteners, large	-	2.8e+02	20	11.5
Assembly of fenders	Fasteners, large	-	10	0.71	0.4
Total				1.7e+02	100

Transport:[Summary](#)**Breakdown by transport stage**

Stage name	Transport type	Distance (km)	Energy (MJ)	%
Transport from factory to TimberNest	Light goods vehicle	1e+02	38	33.3
Transport from factory to TimberNest	Light goods vehicle	1e+02	38	33.3
Transport from shop to TimberNest	Light goods vehicle	1e+02	38	33.3
Total		3e+02	1.1e+02	100

Breakdown by components

Component	Mass (kg)	Energy (MJ)	%
Plywood Sheet	47	31	27.5
Wood Plank	1.1e+02	74	65.8
Screws	0.84	0.55	0.5
Steel fenders	4	2.6	2.3
Rubber fenders	6.7	4.4	3.9
Stainless Steel bolts	0.03	0.02	0.0
Total	1.7e+02	1.1e+02	100

Use:[Summary](#)**Relative contribution of static and mobile modes**

Mode	Energy (MJ)	%
Static	0	
Mobile	0	
Total	0	100

Disposal:[Summary](#)

Component	End of life option	% recovered	Energy (MJ)	%
Plywood Sheet	Re-manufacture	80.0	9.4	27.1
Wood Plank	Reuse	80.0	23	64.9
Screws	Recycle	100.0	0.59	1.7
Steel fenders	Reuse	100.0	0.8	2.3
Rubber fenders	Re-manufacture	80.0	1.3	3.9
Stainless Steel bolts	Recycle	100.0	0.021	0.1
Total			35	100

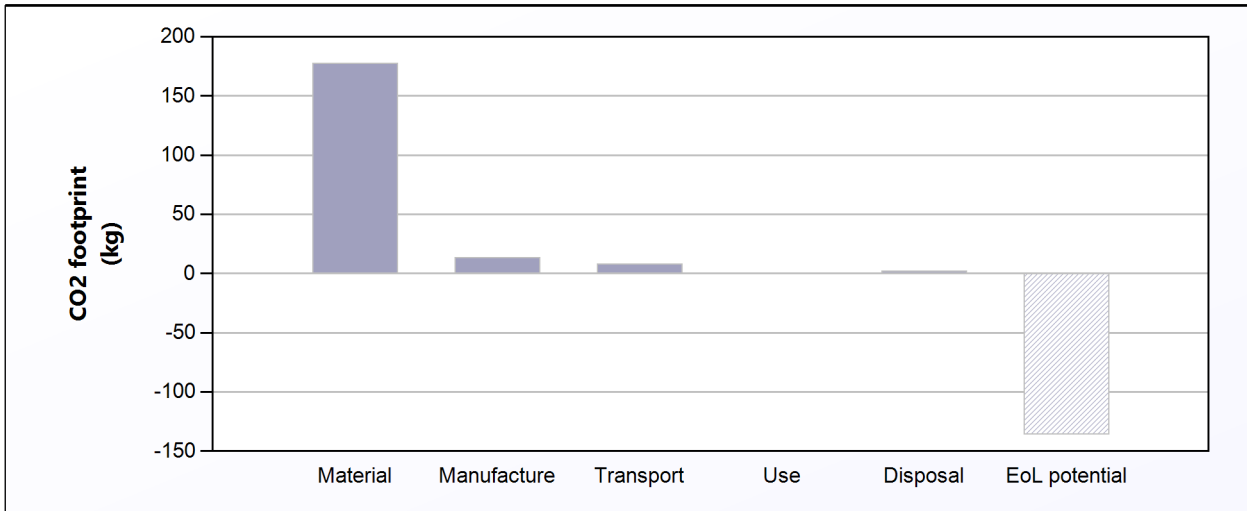
EoL potential:

Component	End of life option	% recovered	Energy (MJ)	%
Plywood Sheet	Re-manufacture	80.0	-5.4e+02	19.8
Wood Plank	Reuse	80.0	-1.6e+03	57.3
Screws	Recycle	100.0	-31	1.1
Steel fenders	Reuse	100.0	-2e+02	7.2
Rubber fenders	Re-manufacture	80.0	-4e+02	14.6
Stainless Steel bolts	Recycle	100.0	-1.1	0.0
Total			-2.7e+03	100

Notes:[Summary](#)

CO2 Footprint Analysis

[Summary](#)



	CO2 (kg/year)
Equivalent annual environmental burden (averaged over 5 year product life):	40.4

Detailed breakdown of individual life phases

Material:

[Summary](#)

Component	Material	Recycled content* (%)	Part mass (kg)	Qty.	Total mass processed** (kg)	CO2 footprint (kg)	%
Plywood Sheet	Birch (betula verrucosa) (t)	Virgin (0%)	47	1	67	41	22.8
Wood Plank	Oak (quercus spp.) (l)	Virgin (0%)	0.75	150	1.6e+02	97	54.6
Screws	Stainless steel, ferritic, AISI 446, annealed	Virgin (0%)	0.003	280	0.84	3	1.7
Steel fenders	Stainless steel, ferritic, AISI 446, annealed	Virgin (0%)	2	2	4	14	8.0
Rubber fenders	Ethylene propylene (diene) (EPDM/EPM, unreinforced)	Virgin (0%)	3.4	2	6.7	23	12.9
Stainless Steel bolts	Stainless steel, ferritic, AISI 446, annealed	Virgin (0%)	0.003	10	0.03	0.11	0.1
Total				445	2.4e+02	1.8e+02	100

*Typical: Includes 'recycle fraction in current supply'

**Where applicable, includes material mass removed by secondary processes

Manufacture:[Summary](#)

Component	Process	% Removed	Amount processed	CO2 footprint (kg)	%
Plywood Sheet	Cutting and trimming	30	20 kg	0.46	3.4
Wood Plank	Cutting and trimming	30	48 kg	1.1	8.2
Screws	Forging	-	0.84 kg	0.19	1.4
Steel fenders	Forging	-	4 kg	0.92	6.7
Rubber fenders	Polymer molding	-	6.7 kg	9.3	68.4
Rubber fenders	Cutting and trimming	-	0 kg	0	0.0
Stainless Steel bolts	Forging	-	0.03 kg	0.0069	0.1
Assembly of plywood	Fasteners, small	-	46	0.097	0.7
Assembly of planks	Fasteners, large	-	2.8e+02	1.5	10.7
Assembly of fenders	Fasteners, large	-	10	0.052	0.4
Total				14	100

Transport:[Summary](#)**Breakdown by transport stage**

Stage name	Transport type	Distance (km)	CO2 footprint (kg)	%
Transport from factory to TimberNest	Light goods vehicle	1e+02	2.7	33.3
Transport from factory to TimberNest	Light goods vehicle	1e+02	2.7	33.3
Transport from shop to TimberNest	Light goods vehicle	1e+02	2.7	33.3
Total		3e+02	8.1	100

Breakdown by components

Component	Mass (kg)	CO2 footprint (kg)	%
Plywood Sheet	47	2.2	27.5
Wood Plank	1.1e+02	5.3	65.8
Screws	0.84	0.04	0.5
Steel fenders	4	0.19	2.3
Rubber fenders	6.7	0.32	3.9
Stainless Steel bolts	0.03	0.0014	0.0
Total	1.7e+02	8.1	100

Use:[Summary](#)**Relative contribution of static and mobile modes**

Mode	CO2 footprint (kg)	%
Static	0	
Mobile	0	
Total	0	100

Disposal:[Summary](#)

Component	End of life option	% recovered	CO2 footprint (kg)	%
Plywood Sheet	Re-manufacture	80.0	0.66	27.1
Wood Plank	Reuse	80.0	1.6	64.9
Screws	Recycle	100.0	0.041	1.7
Steel fenders	Reuse	100.0	0.056	2.3
Rubber fenders	Re-manufacture	80.0	0.094	3.9
Stainless Steel bolts	Recycle	100.0	0.0015	0.1
Total			2.4	100

EoL potential:

Component	End of life option	% recovered	CO2 footprint (kg)	%
Plywood Sheet	Re-manufacture	80.0	-25	18.1
Wood Plank	Reuse	80.0	-78	57.2
Screws	Recycle	100.0	-2.2	1.6
Steel fenders	Reuse	100.0	-14	10.4
Rubber fenders	Re-manufacture	80.0	-17	12.6
Stainless Steel bolts	Recycle	100.0	-0.079	0.1
Total			-1.4e+02	100

Notes:[Summary](#)