LCA: Slab Timber Table
Product Embodied Carbon Declaration

PAS 2050:2011

DOCUMENT DETAILS	
Description	Life Cycle Assessment Report
Product	Slab Timber Table
Declared Unit	1 unit (dimensions: 3000mm × 1500mm)
Functional Unit	1 conference table used for 20 years in an office setting
For Period	Jan 2024 to Dec 2024
System Boundary	Cradle to grave lifecycle assessment
Company	Workbench
Consultants	Martyn Bromley
Dated	8th July 2025
Version	6

01 introduction

This report details the “Crade to Grave” life cycle assessment (LCA) of the Workbench Slab Timber Table including the embodied carbon and estimated environmental impacts across all life cycle stages. The LCA has been conducted using OpenLCA software and methodology aligned with,

- PAS 2050:2011
- Green House Gas (GHG) Protocol Product Life Cycle Accounting and Reporting Standard
- EN 15804 standard using the Ecoinvent database
- ISO 14040
- ISO 14044

02 goal and scope definition

The purpose of this LCA is to estimate the cradle-to-grave greenhouse gas emissions (in kg CO_2e) of the Slab Timber Table furniture unit.

System boundary: Cradle to grave

Life cycle stages included:

- Design, project management and administration
- Raw material acquisition
- Upstream transport
- Manufacturing & Assembly
- Downstream transport
- Use phase including refurbish (based on 20-year assumed lifespan)
- End-of-life (recycling, landfill)

03 system boundaries

The system boundary includes raw material extraction, transportation, manufacturing, assembly, maintenance, and end-of-life processing. Transport modes include road and sea freight. Maintenance includes two lacquer recoats during the product’s life.

04 greenhouse gases considered

Emissions include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6, expressed as kg CO_2e using IPCC AR5 GWP values.

05 material content embodied carbon

A summary of embodied carbon in the material component of the Slab Timber Table are shown in Table 1 and Figure 1.

Slab Timber Table Lifecycle Analysis				
Process / Component	**Material**	**Quantity**	**Unit**	**Kg CO_2e**
Base Material	MDF	29.80	kg	51.04
Frame Material	Oak	13.80	kg	8.14
Core Table Material	MDF	95.30	kg	81.62
Veneer	veneer	5.00	kg	0.60
Coating	lacquer	2.50	kg	9.51
Brackets & Castors	steel	5.00	kg	16.10
Total				**167.01**

Table 1: Embodied Carbon Content for Workbench Slab Timber Table

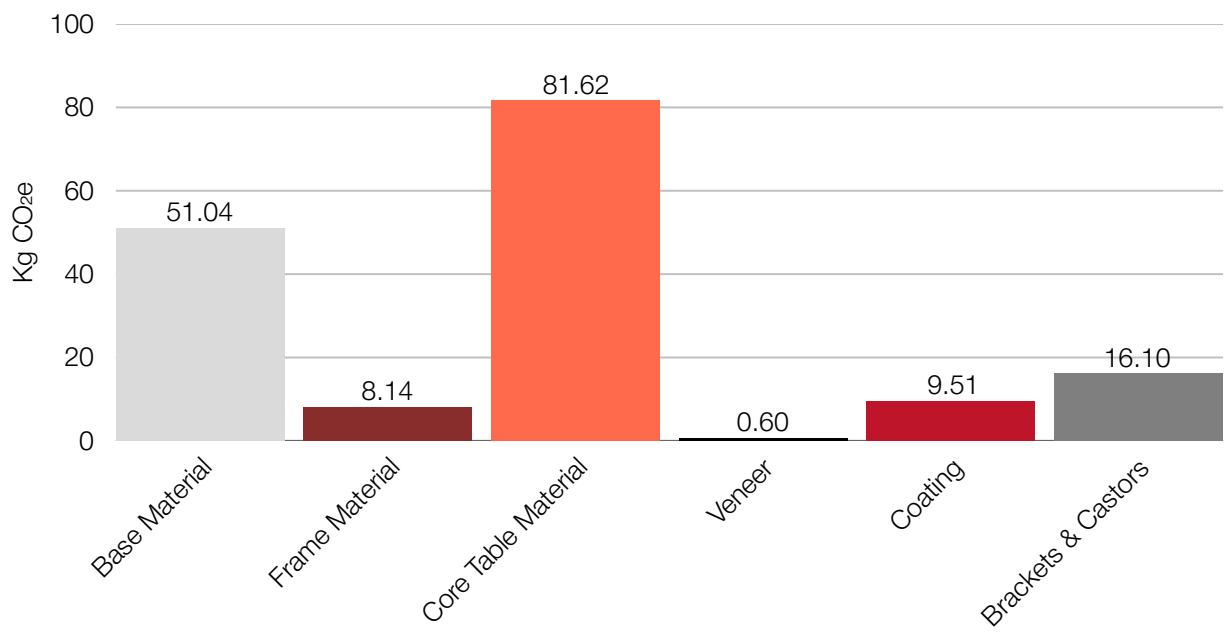

Figure 1: Embodied Carbon Content for Workbench Slab Timber Table

06 carbon footprint inventory analysis

A summary of the main activity data and assumptions used to estimate emissions are shown in Table 1 and Figure 1.

Slab Timber Table Lifecycle Analysis				
Process	**Material**	**Quantity**	**Unit**	**Kg CO_2e**
Design & Admin Energy		23.41	kWh	4.94
Assembly Energy		135.00	kWh	28.47
Upstream Transport		218.96	tonne km	8.15
Base Material	MDF	29.80	kg	51.04
Frame Material	Oak	13.80	kg	8.14
Core Table Material	MDF	95.30	kg	81.62
Veneer	veneer	5.00	kg	0.60
Coating	lacquer	2.50	kg	9.51
Brackets & Castors	steel	10.00	kg	16.10
Assembly Waste		9.53	kg	0.01
Downstream Transport		15.64	tonne km	2.55
Use Phase		0.50	kg	1.90
End of Life		54.10	kg	0.10
Total				**213.12**

Table 2: Embodied Carbon Content for Workbench Slab Timber Table

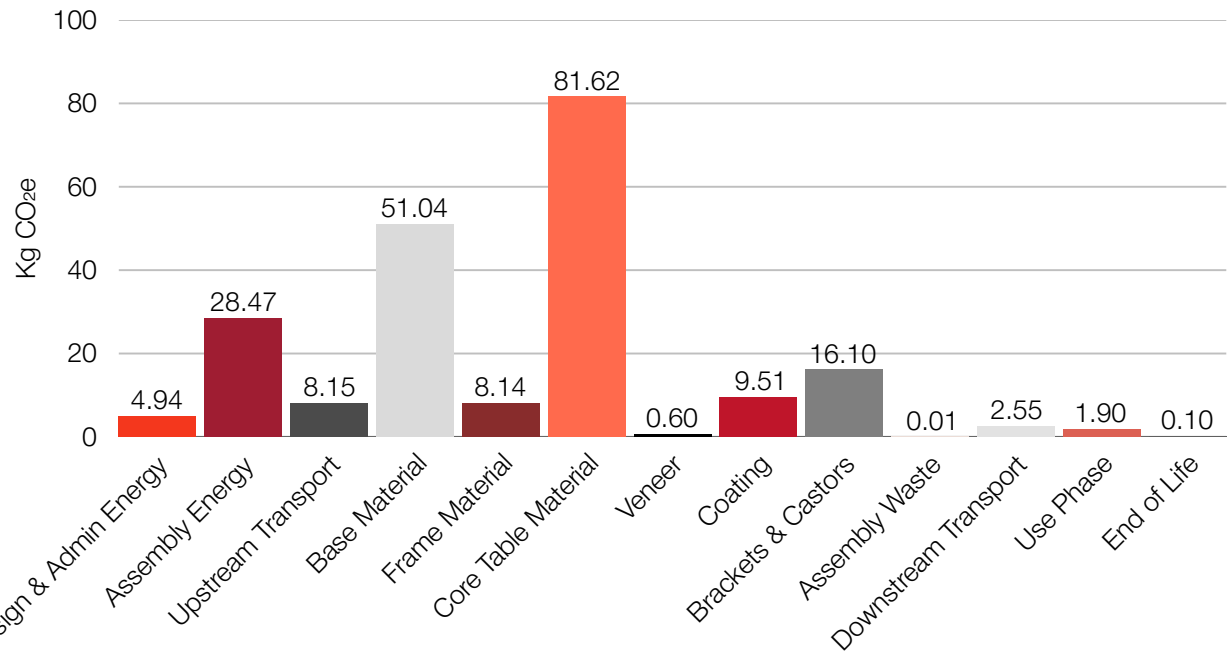

Figure 2: Embodied Carbon Content for Workbench Slab Timber Table

07 interpretation

The primary contributors to emissions are material inputs and transport. Assembly and maintenance have smaller impacts.

08 assumptions and data quality

Data for design, administration and assembly, material content and location of sources, was provided to Carbon Lens Ltd by Workbench. Some estimates were required for transport, use phase, and end of life disposal. Details are in table.

Assumptions of Data Quality			
Process/Component	**Data Provided**	**Assumptions**	**Data Quality**
Design & Admin Energy	Hours per unit	Based on 25 units	Very good
Assembly Energy	Hours per unit	Based on 25 units	Very good
Upstream Transport	Region of source of raw material	Road & sea transport	Fair
Base Material	Material type, weight & dimensions	Data used as provided	Very good
Frame Material	Material type, weight & dimensions	Data used as provided	Very good
Core Table Material	Material type, weight & dimensions	Data used as provided	Very good
Veneer	Material type, weight & dimensions	Data used as provided	Very good
Coating	Material type, weight & dimensions	Data used as provided	Very good
Brackets & Castors	Material type, weight & dimensions	Data used as provided	Very good
Assembly Waste	Percentage of material wasted	Data used as provided	Good
Downstream Transport	Average data	Average road transport	Fair
Use Phase	Average data	2 Refurbishments	Fair
End of Life	Description of fate of waste	Metal: recycle, MDF: Landfill	Good
Total			

Table 3: Assumptions & Data Quality for Workbench Slab Timber Table

09 flow chart

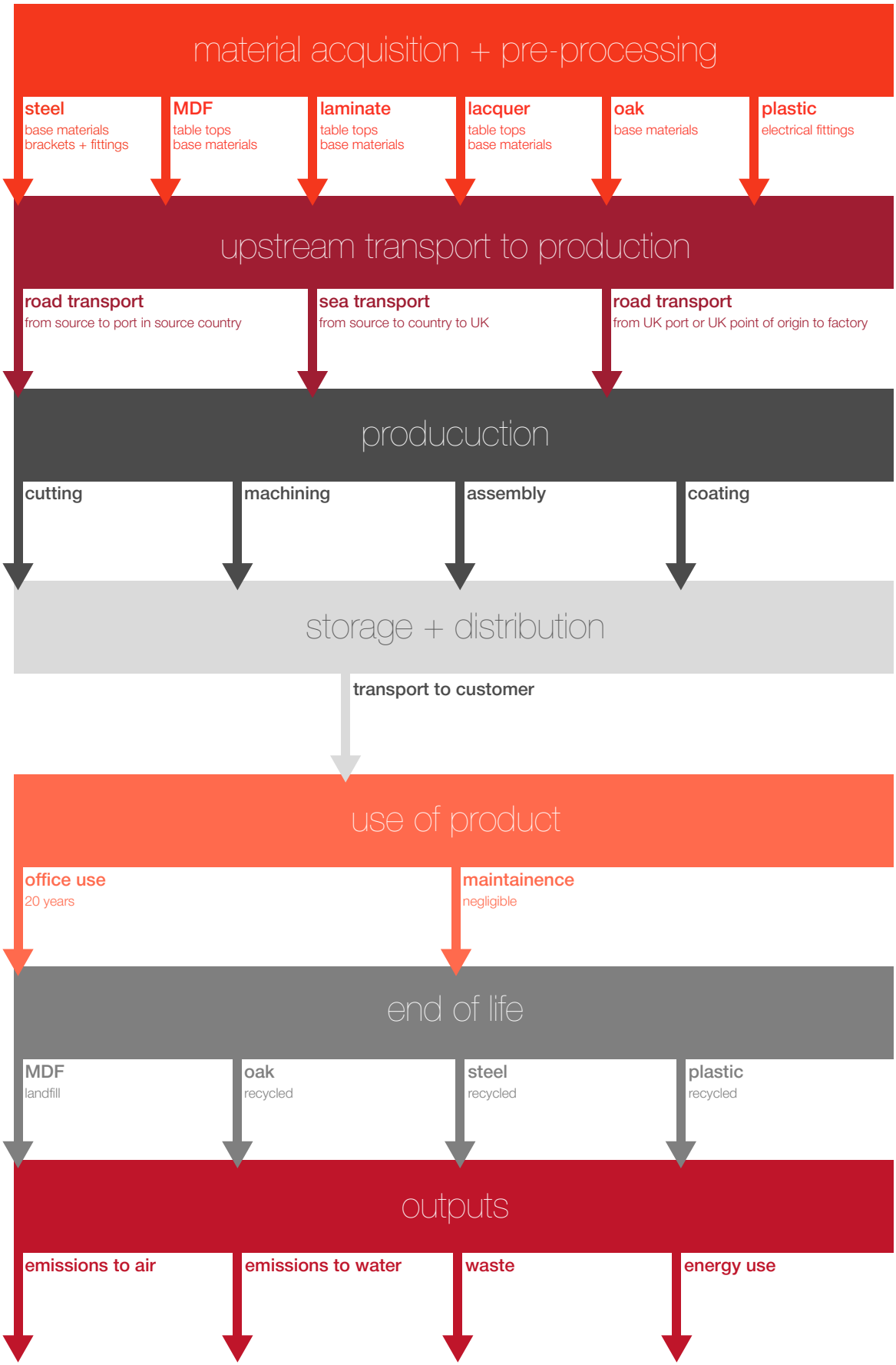

Figure 3: Embodied Carbon Content for Workbench Slab Timber Table

10 verification

This declaration has been prepared verified by Carbon Lens Ltd and is based on product data and material specifications provided by Workbench.

Verified by: Martyn Bromley, Director. Carbon Lens Ltd

Signed:

Date: 8th July 2025

Declaration by Workbench
The undersigned confirms that the information provided is complete and accurate to the best of their knowledge.

Signed:

Date: 8th July 2025