

# LCA: Mono Timber Table

## Product Embodied Carbon Declaration

PAS 2050:2011

| DOCUMENT DETAILS |                                                           |
|------------------|-----------------------------------------------------------|
| Description      | Life Cycle Assessment Report                              |
| Product          | Mono 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            | 8 <sup>th</sup> July 2025                                 |
| Version          | 6                                                         |



# 01 introduction

This report details the “Cradle to Grave” life cycle assessment (LCA) of the Workbench Mono 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<sub>2e</sub>) of the Mono 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<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>, expressed as kg CO<sub>2e</sub> using IPCC AR5 GWP values.

# 05 material content embodied carbon

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

| Mono Timber Table Lifecycle Analysis |          |          |      |                      |
|--------------------------------------|----------|----------|------|----------------------|
| Process / Component                  | Material | Quantity | Unit | Kg CO <sub>2</sub> e |
| Base Material                        | MDF      | 15.40    | kg   | 13.19                |
| Frame Material                       | Steel    | 20.00    | kg   | 32.20                |
| Core Table Material                  | MDF      | 95.29    | kg   | 81.61                |
| Veneer                               | veneer   | 5.00     | kg   | 0.60                 |
| Coating                              | lacquer  | 2.50     | kg   | 9.51                 |
| Brackets & Castors                   | steel    | 10.00    | kg   | 14.60                |
| Total                                |          |          |      | 151.71               |

Table 1: Embodied Carbon Content for Workbench Mono Timber Table

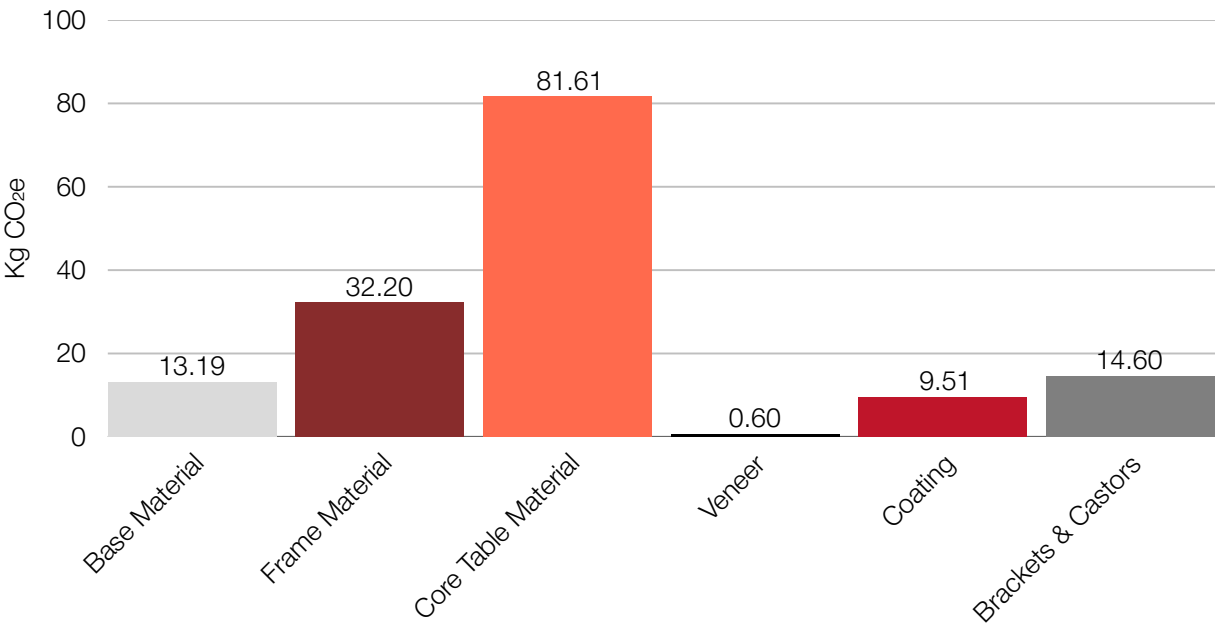


Figure 1: Embodied Carbon Content for Workbench Mono Timber Table

## 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.

| Mono Timber Table Lifecycle Analysis |          |          |          |                     |
|--------------------------------------|----------|----------|----------|---------------------|
| Process                              | Material | Quantity | Unit     | Kg CO <sub>2e</sub> |
| Design & Admin Energy                |          | 23.41    | kWh      | 4.94                |
| Assembly Energy                      |          | 135.00   | kWh      | 28.47               |
| Upstream Transport                   |          | 207.46   | tonne km | 7.72                |
| Base Material                        | MDF      | 15.40    | kg       | 13.19               |
| Frame Material                       | Steel    | 20.00    | kg       | 32.20               |
| Core Table Material                  | MDF      | 95.29    | kg       | 81.61               |
| Veneer                               | veneer   | 5.00     | kg       | 0.60                |
| Coating                              | lacquer  | 2.50     | kg       | 9.51                |
| Brackets & Castors                   | steel    | 10.00    | kg       | 14.60               |
| Assembly Waste                       |          | 13.07    | kg       | 0.01                |
| Downstream Transport                 |          | 14.82    | tonne km | 2.42                |
| Use Phase                            |          | 135.69   | kg       | 1.90                |
| End of Life                          |          | 121.19   | kg       | 0.08                |
| Total                                |          |          |          | 197.24              |

Table 2: Embodied Carbon Content for Workbench Mono Timber Table

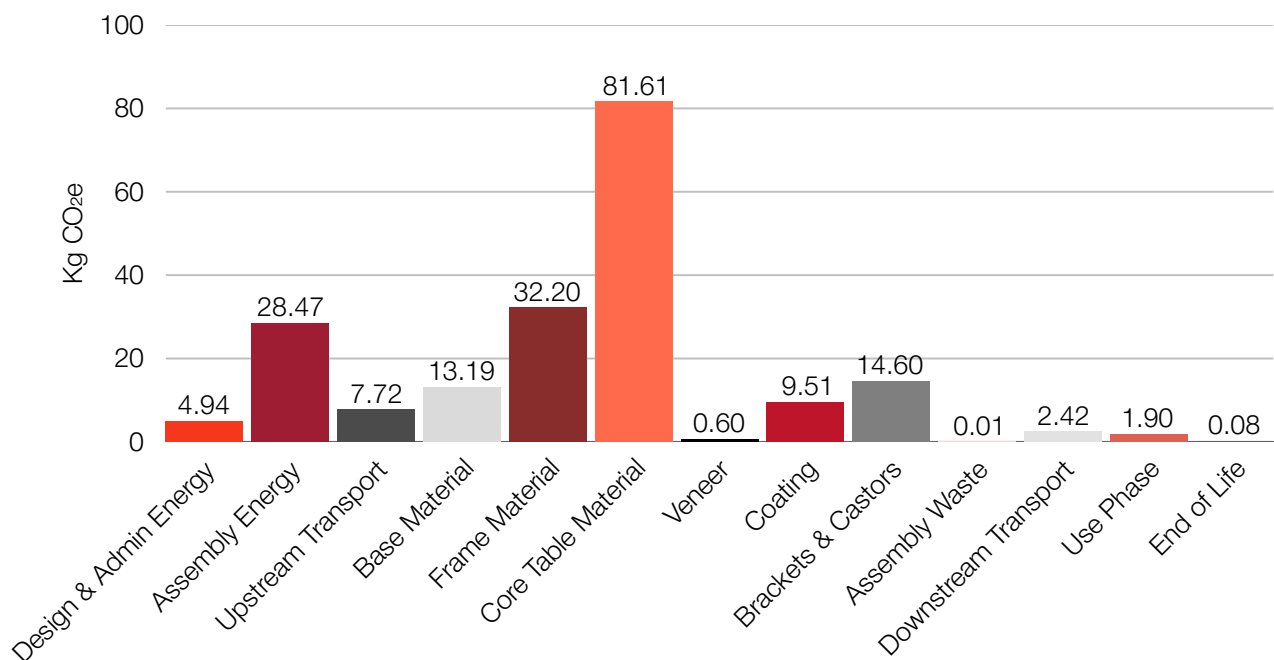


Figure 2: Embodied Carbon Content for Workbench Mono Timber Table

## 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 Mono Timber Table

## 09 flow chart

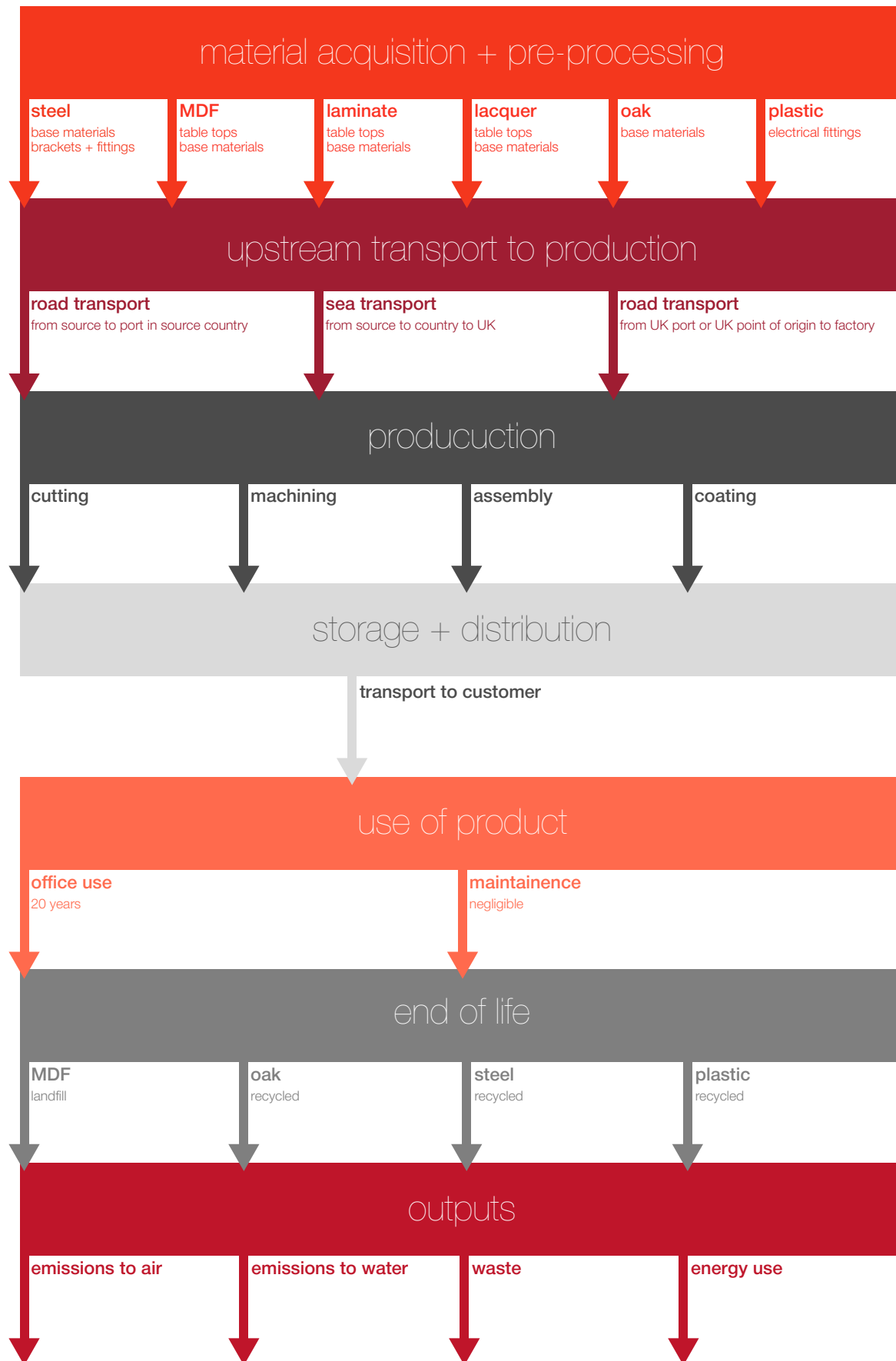


Figure 3: Embodied Carbon Content for Workbench Mono Timber Table

# 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

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