***{{PROJECT}} — Easy LCA Report***

**Introduction**

At Tchai we build different: within every brand space we design we try to leave a positive mark on people and planet.  
Our Easy LCA tool helps us see the real footprint of a concept before it’s built: materials, transport, end‑of‑life. With those numbers we can adjust, swap, or simplify.

By 2030 we want every solution we deliver to have a clear, positive influence. Tracking impact now is a practical step toward that goal.

**Different tracks, shared direction: sustainability**​​​

Within every design process, we aim to integrate sustainability as early and as broadly as possible. We deliberately take a wide-angle approach: to us, sustainability is the result of a series of choices and trade-offs, not a one-size-fits-all solution.

For some organizations, the focus lies on CO2e emissions; for others, it's on circularity, reuse, or social responsibility. We believe that each organization follows its own sustainability journey.

At this conceptual stage, we used a consistent design to evaluate each material’s environmental impact based on the following criteria:

* CO2e emissions per unit (calculated over a project lifespan)
* Recycled content (% of recycled vs. virgin material)
* Circularity potential (reusability, reparability, modularity)
* End-of-life considerations

### **Materials Included in the Analysis**

* List of materials

### **Considerations and Scope**

Beyond environmental metrics, material selection was guided by expected lifespan, durability, and resistance to vandalism. While these are not directly reflected in CO2e calculations, they significantly impact long-term performance and suitability.

Transport emissions were excluded from this stage, as they depend on future decisions such as supplier and production location. Should we be involved in the production phase, these will be included in the final LCA.

This comparison is indicative, aiming to generate early insight into the environmental implications of material choices, focusing solely on environmental aspects.

Social criteria like working conditions and human rights, while not part of this assessment, are essential to our approach. At Tchai, we only collaborate with suppliers who uphold high standards of ethics, transparency, and labor rights.

This methodology supports better-informed early decisions and promotes meaningful, well-rounded discussions about sustainability.

### **Material Comparison Overview**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Material | **CO2e per Unit (kg CO2e)** | **Avg. Recycled Content** | **Circularity** | **End-of-Life** | **Tree Equivalent\*** |
| {%tr for item in materials %} |  |  |  |  |  |
| {{item.MATERIAL}} | {{item.CO2\_TOTAL }} | {{item.RECYCLED\_CONTENT}} | {{item.CIRCULARITY}} | {{item.EOL}} | {{item.TREES\_MATERIAL}} |
| {%tr endfor %} |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

\*Tree Equivalent: Estimated number of trees required to sequester the CO2e emissions from one unit over X years.

### **Conclusion: Sustainability That Goes Beyond the Numbers**

Not every improvement appears in a CO2e score, but that doesn’t make it less important.

This comparison doesn’t point to a single perfect material, and that’s the point. Each option presents distinct strengths and trade-offs. The real opportunity lies in combining these insights to shape a smarter, more sustainable design.

The final design will likely use a mix of materials, balancing functionality, durability, and environmental impact. This analysis provides the foundation for that design process.

Ultimately, the goal isn’t just to reduce numbers, but to pursue meaningful sustainability: selecting materials that perform well both environmentally and practically over time. These are not just optimizations for today, but decisions made with long-term responsibility in mind.

# Key Metrics

***Lifetime: {{LIFETIME\_YEARS}} years ({{LIFETIME\_WEEKS}} weeks)***

***Total CO₂e: {{TOTAL\_CO2}} kg***

***Weighted recycled content: {{WEIGHTED\_RECYCLED}}***

***Trees/year: {{TREES\_YEAR}} · Total trees: {{TREES\_TOTAL}}***