



Sustainability Overview

Carbon Figures

Structural Engineered Bamboo

+

Sustainable Solutions

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“The Strongest and Most Renewable Structural Material in the World”

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Bamboo Stabilizes and Nourishes the Soil:

Guadua bamboo's root system stays in tact throughout growth and harvest. When timber is harvested the root system dies and causes drastic soil instability, and the consequence is top soil erosion. Extreme cases of this have occurred all over the world in places such as India, Asia, and Central/South America. When old growth and timber farms are removed the quality top soil is lost and regrowth of any form of vegetation is limited.



ReNüTeq Sustainability and Sourcing Practices

ReNüTeq is the only USA based international bamboo company that has established its sourcing from the Western Hemisphere! Importing bamboo from Asia is extremely inefficient and adds to greenhouse gas emissions through massive transportation distance.



ReNüTeq Sourcing Utilizes the Least Carbon Intensive Transport : Barge and Rail



Bamboo Sequesters 10x Carbon vs Trees:

Guadua bamboo has a unique geometric growth curve that makes it 10x faster than tree-based CO₂ drawdown. Intensively harvested, Guadua bamboo can sequester up to 1.76 tones CO₂/clump/year, or up to 362 tones/hectare/year in an optimally managed farm.



SEB (Structural Engineered Bamboo) Carbon Values

Engineered Wood:

It is estimated that carbon storage *per m³* of *wood* used in industrial applications can range from 758 kg CO₂ to 970 kg CO₂.

SEB (Structural Engineered Bamboo):

Estimated Carbon Sequestration: 1,316 kg/m³ = of CO₂(LCA)

Bamboo Produces 37% More Oxygen:

Guadua bamboo not only sequesters carbon, but it also produces oxygen as it grows. Guadua bamboo produces up to 37% more oxygen than trees. During the industrial revolution and even today massive quantities of natural tree growth has been removed around the world. Timber construction is considered sustainable when compared to concrete and steel, but it is no where near the sustainability case for bamboo especially when accounting for the already depleted natural forests



Sustainability Certifications:



STANDARD CREDITS

- EA Credit 1 | Optimize Energy Performance
- MR Credit 6 | Rapidly Renewable Resources
- MR Credit 7 | Certified Woods
- EQ Credit 4.1 | Low-Emitting Adhesives and Sealants
- EQ Credit 4.1 | Low-Emitting Materials

INNOVATION CREDITS

- ID Credit 1 | Environmental Performance, Innovation in Design
- ID Credit 2 | Life Cycle Assessment, Innovation in Design



Manufacturing & Operations:

Patented Technologies = Increased Process Efficiency + Increased Performance +



ReNüTeq has **implemented** patented technology that focuses on optimizing the highest performance fiber of the culm utilizing the highest **performance** species of bamboo in the world:

Guadua sourced from Latin America is the largest and fastest growing, and is over **2 times stronger** than any other bamboo species making ReNüTeq's **SEB (Structural Engineered Bamboo)** products the strongest natural resource for the building industry. The specifically selected bamboo culm is then processed in ReNüTeq's processing facilities located in **Ecuador & Columbia (South America)**

Total Embodied Energy:

ReNüTeq's manufacturing process are estimated to be between 25 to 35 Mj/kg of SEB product produced.

Processes Included:

- Harvest, Treatment, Drying
- Slatting of bamboo culms and redrying
- Production and Application of Adhesive
- Lamination and Secondary Lamination for larger components
- Cutting, Shaping, Fabrication and Finishing
- All transport from sources to primary lamination facilities, and fabrication and finishing facilities in the USA.

Aluminum/Steel ~ 200–220 Mj/kg

Vinyl/PVC/Plastics ~ 65–75 Mj/kg

Fiberglass ~ 40–50 Mj/kg





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