Bamboo, beyond the hype.

“A call for action”

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What is AMPHIBIA?
Technology-based British company working on Disruptive Manufacturing Technologies & Building Systems for the mainstream use of Bamboo in Construction.

Helping suppliers and manufacturers innovate and create value with bamboo...
Untapped resource

31.5 million ha

Worldwide

Global Wood Scarcity by 2030 [1]

Growing demand

WPC & NFC = 206k ton & 92k ton (EU)

Environmental credentials

15x CO₂ Steel & 6x CO₂ Oak

Cement = 1ton CO₂/ton

Global Wood Scarcity by 2030 [1]

Emerging economies

Scalable model

Social end Economic development
Preferential Tariffs (Import / Export)

[1] Source 2011, Jonsson et al., Swedish-forest-sector-outlook
Engineered bamboo products

Prefabricated systems

Lightweight systems

Densified Bamboo Planks

Bamboo

Advanced Manufacturing Technologies

High Value Added bamboo products & Building systems

✓ 2x stronger
✓ 50% less waste & glue
✓ Faster @ source
✓ 5x less transport

✓ Carbon negative
✓ No chemicals
✓ Structural
World’s Impact

- 40% energy
- 30% GHG

The built environment sector consumes up to 40% of the world’s energy and emits up to 30% of global greenhouse emissions. Source: UNEP SBCI

✓ Lightweight
✓ Structural
✓ Carbon negative
amphibia

Advanced Manufacturing Technologies

Feasible Products & Systems

Suppliers

Manufacturers

End customers

Lab to field

Technology trials & Product development

Prove the Technology

Cost

Product Demonstrations

Value + Revenue

Social & Economic development
Challenges
✓ Protection by design
✓ High added value
Poor man’s timber

Design for the poor = Poor design = Low added value

Concept model of flood resistant Blooming bamboo home by H&P architects
Source: Design-boom

Casas elevadas de caña de Guadua by INBAR. Source: La revista
Not a steel replacement in reinforced concrete...!

✓ It swells, crashes, and either requires more material and transformation (bamboo composite).


Bamboo reinforced concrete is an ill-considered concept ...!

✓ It is NOT: cheaper, safer, more durable, nor more sustainable than steel reinforced concrete.
Bamboo products as ‘de-facto’ sustainable
✓ Engineered bamboo vs other materials

Rayon made from bamboo vs. Bamboo fibres

Flaws on the manufacturing process, that converts bamboo fibres into a synthetic fabric (rayon) and involves toxic chemicals and harmful by-products.
Hybrid materials & systems
Product design + Manufacturing + Feasibility (Tech + Commercial)

Images by Hector Archila @amphibia_group
17 UN Global objectives
End of poverty, inequality and climate change by 2030

Society

Environment

Economy

Strong Sustainable Complementary

Sustainable

WBC MEXICO
Gracias - Thanks!

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