

The Market Potential Research of a Carbon Negative Composite

EVE BAMBOO PLATE: Short Bamboo NFC

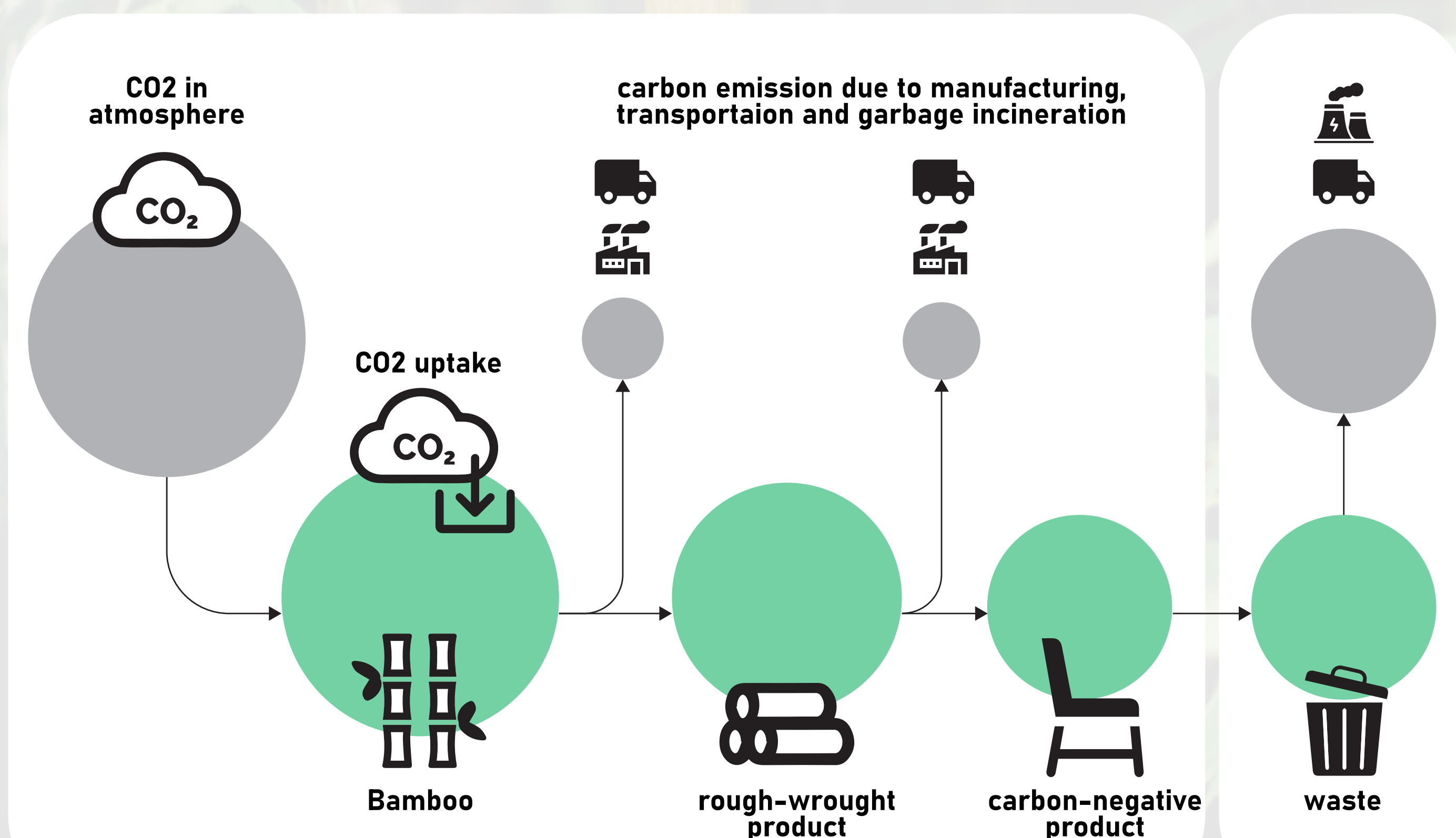
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EVE BAMBOO PLATE

Project Background

The problem of CO₂ accumulating in the atmosphere causing serious concerns like global warming has been a problem for a long time. As we know plants can intake CO₂, if we make them into products with low carbon emission than the intake, the product will be carbon negative.



EVE BAMBOO PLATE make use of the bamboo waste during the manufacturing process, aligning the short fibers which balance the high performance and low cost, also ecofriendly to the environment for being 100% bio-based. Aligned fiber composite retain 90% stiffness to longfiber.

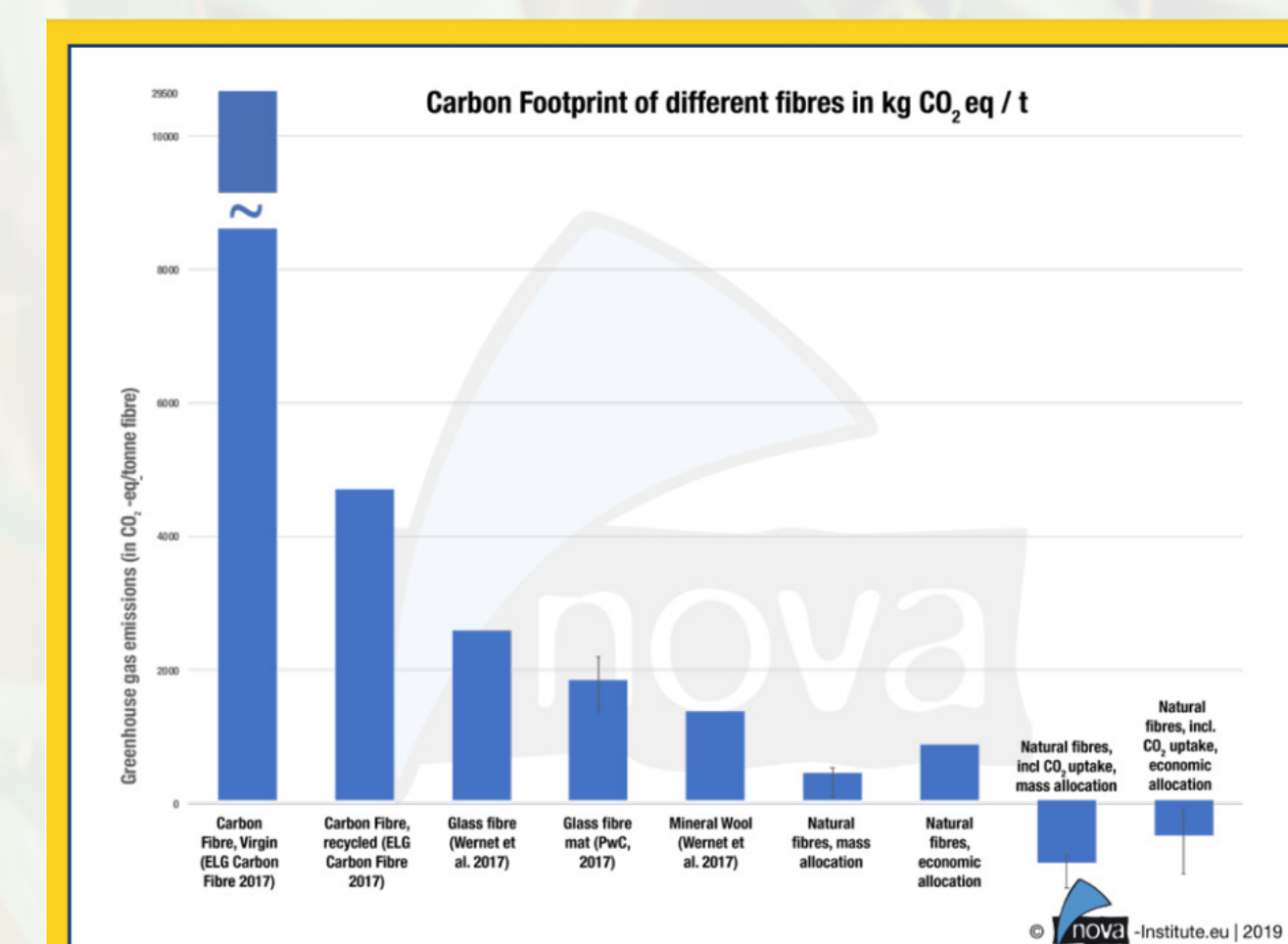
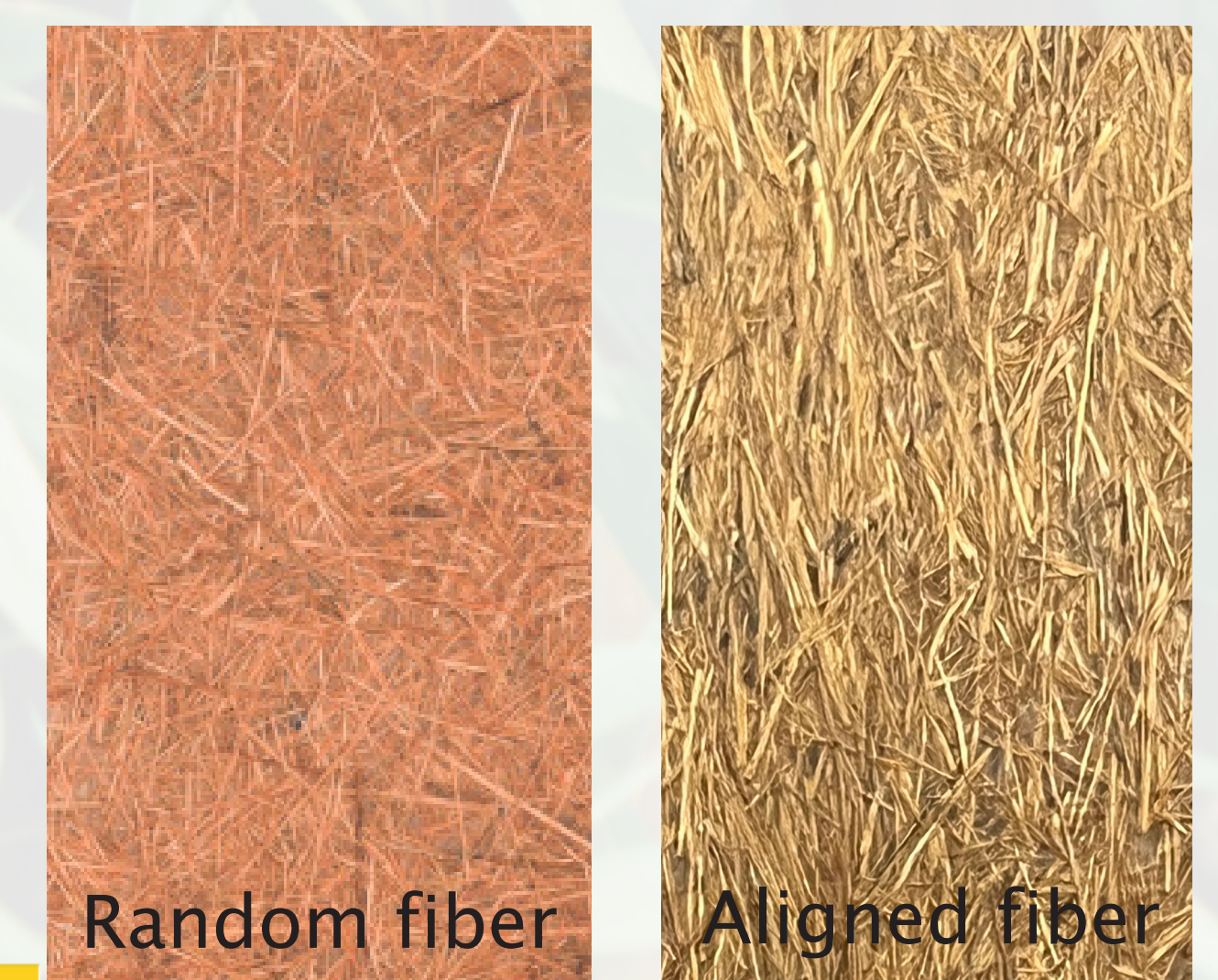


Figure 19: Carbon footprint of different materials in kg CO₂, eq / t (PwC 2017, Wernet et al. 2016, nova-Institut 2019, ELG Carbon Fibre 2017)

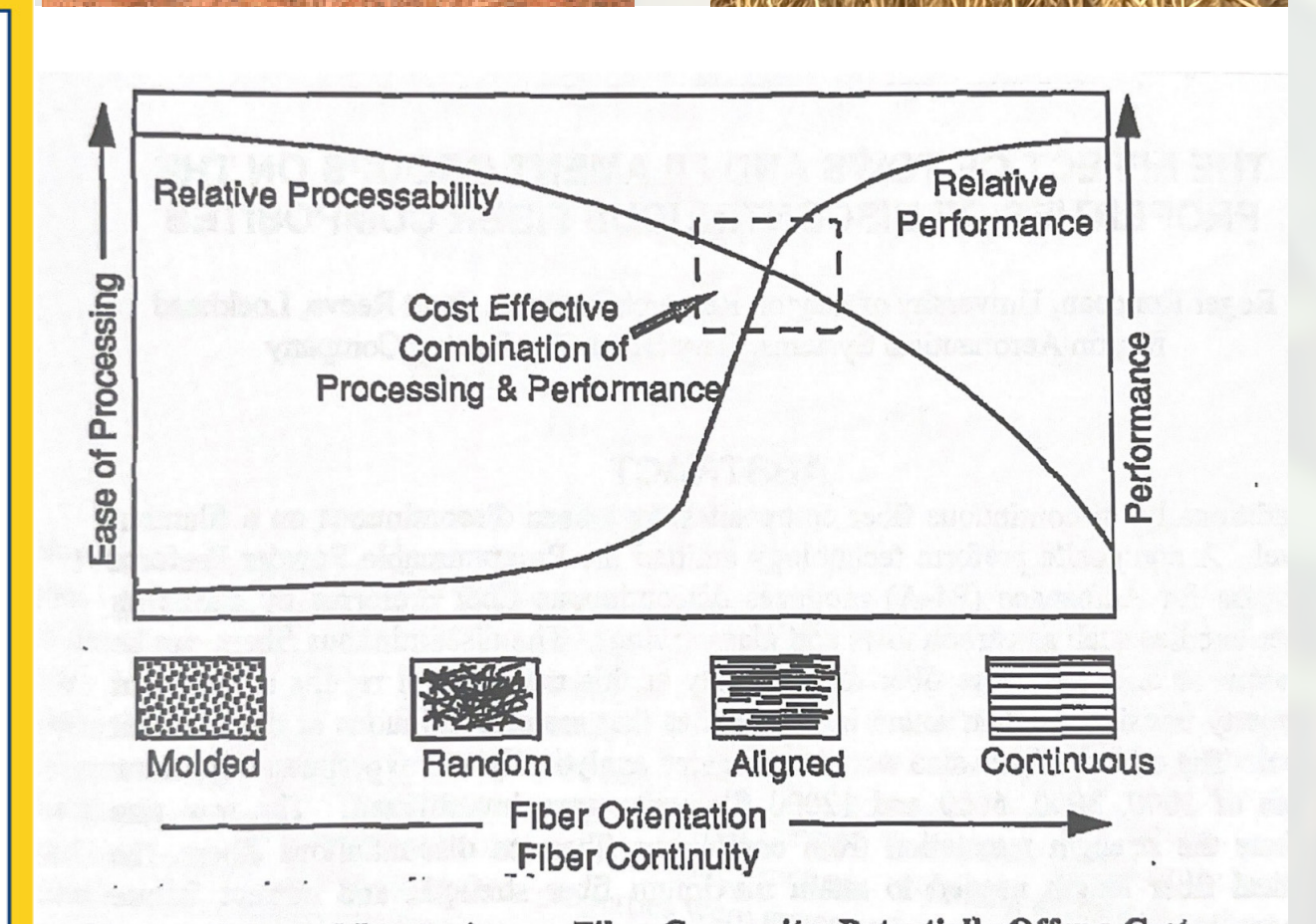
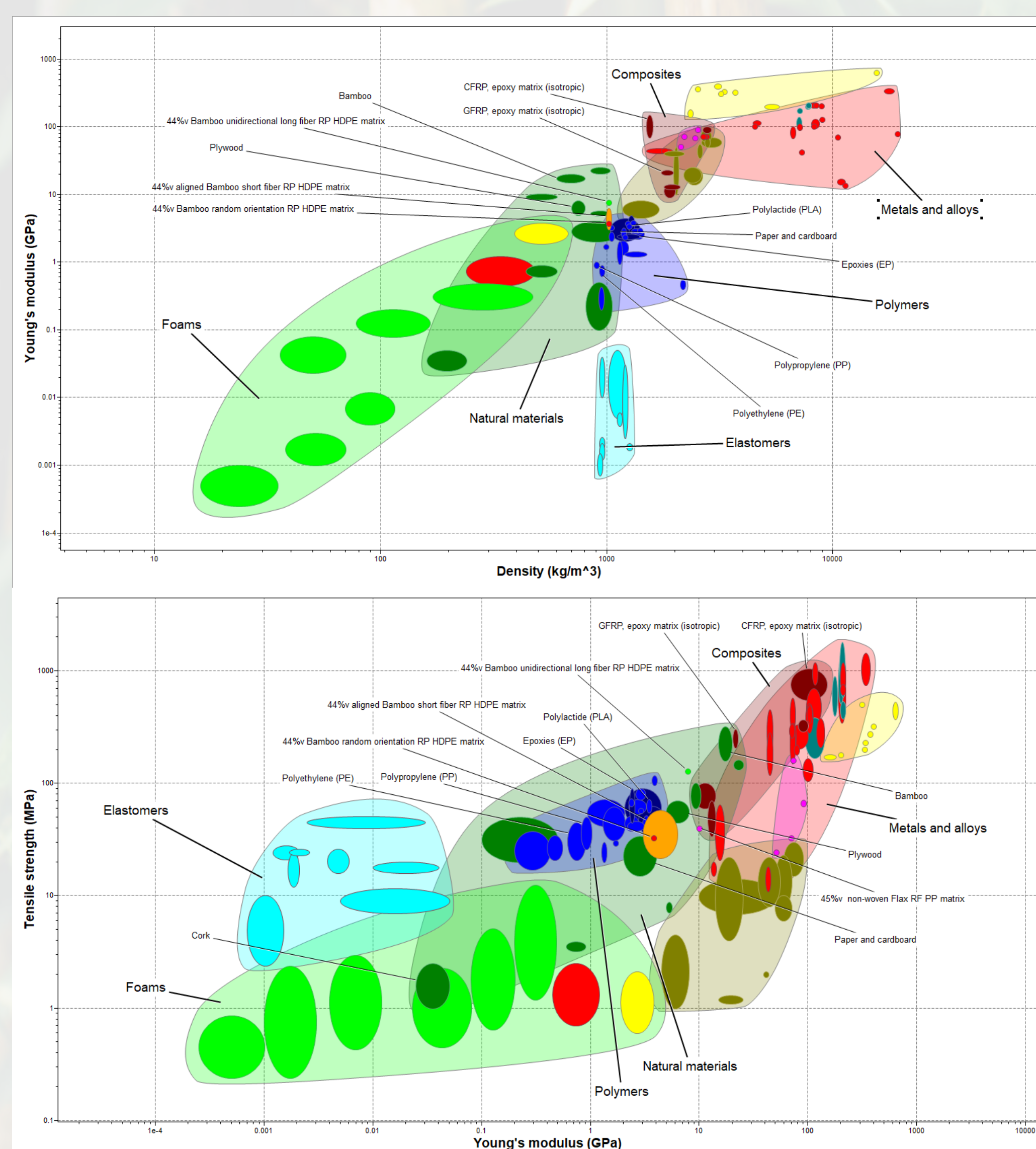


Figure 1. Oriented Discontinuous Fiber Composites Potentially Offer a Cost-Effective Combination of Processing and Performance

Technical datasheet of EVE BAMBOO PLATE



EVE BAMBOO PLATE datasheet

Density: 1.02e3 kg/m³

Strength: 3.07~6.26 GPa

Yong's modulus: 21.6~57.2MPa

Market Research of NFC

During the JEC 2024, great amount of composite company bringing the latest implementation with NFC. We can get some insights from them.

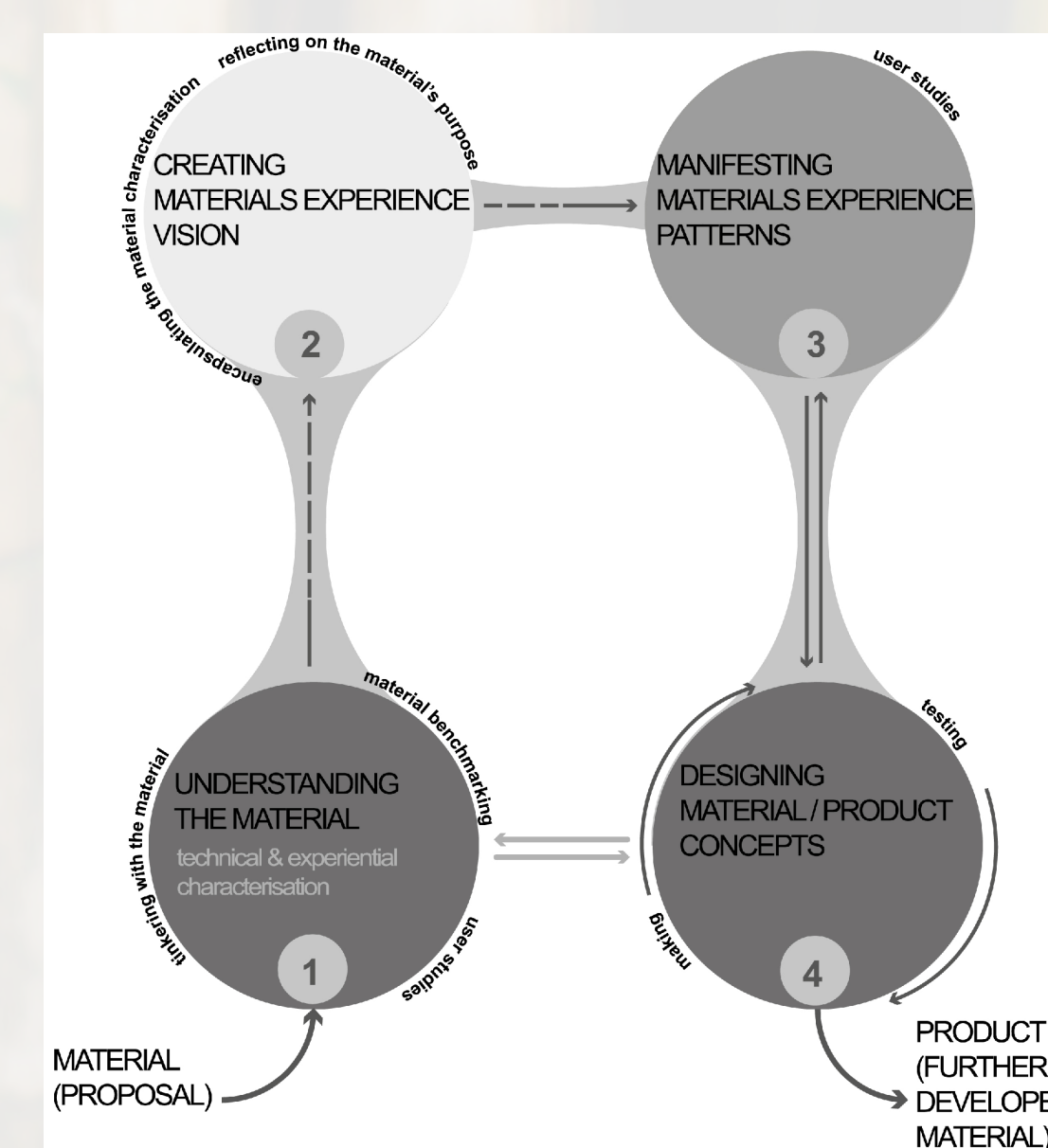
1. At current stage, flax still dominates the bio-based composite market.
2. Secondly, only very few companies use bio-based material as the casing of products or for other decorative uses.
3. The company is most likely to use natural fiber composites as the structural part.
4. It's interesting to find most of the implementations are in sports, automotive, or high-tech infrastructure fields.

Material	hemp	Flax	Flax	Hemp Flax Bamboo	Flax	Hemp Flax Bamboo
Applications	Decorative					
	Structural					
	Sports					
	Automotive					
	Household products					
Experiential qualities	Natural color	/			/	
	Imperfections					
	Roughness					
	Scent intensity	/				/
	Visible fibers	/				/
Naturalness						

Next step of the research:

Now I already have the basic information of EVE BAMBOO PLATE's technical properties' data, so I still need to gain more insights from the user's perspective on how they perceive and understand the material. The future study will use the Material Driven Method, which combines the user's experiential feedback of the material and the mechanical properties of the material, together for searching the market potential on its implementation.

After searching for the potential field to implement, I will make a product design concept using EVE BAMBOO PLATE.



Looking for partnership and cooperation for sustainable product development!!!

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