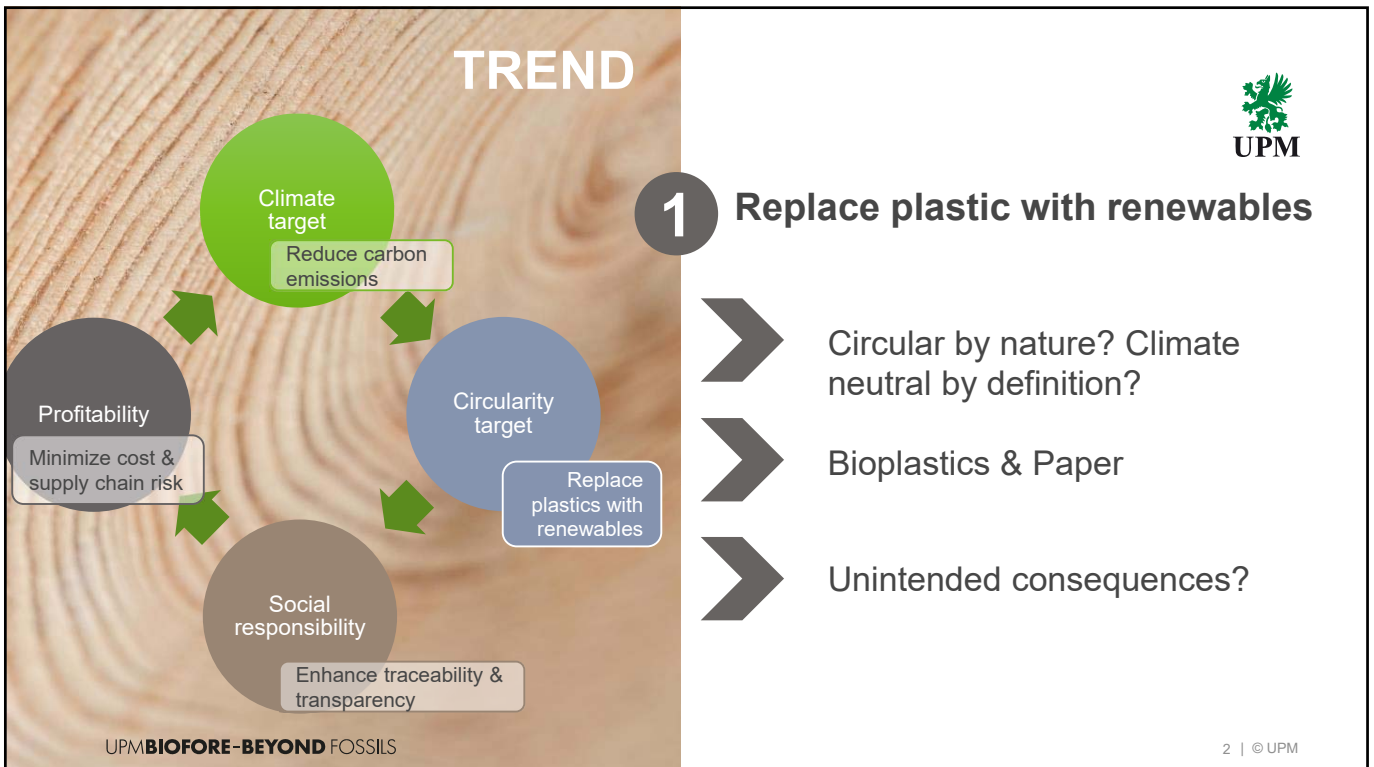




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**TREND**

**2 Use recycled content**

- mPCR vs cPCR
- “Niche” solutions
- Open loop versus closed loop

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**TREND**

**3 Reduce / lightweight**

- Linerless
- Face thickness
- New horizons?

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**TREND**

**4** Enhance reuse / recyclability of packaging

- Perspective change
- Potential impact multiplied
- Measureable?

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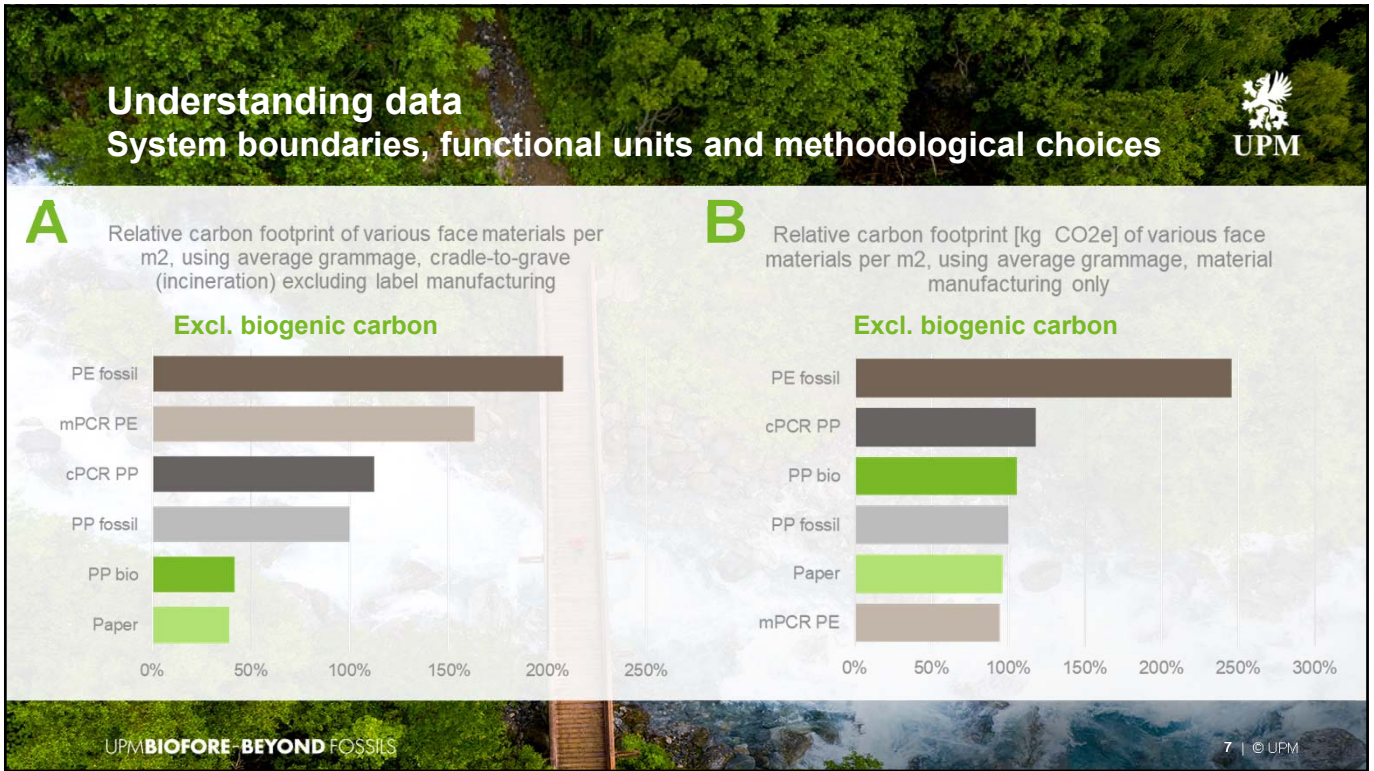
**Tackling complexity**

UPM

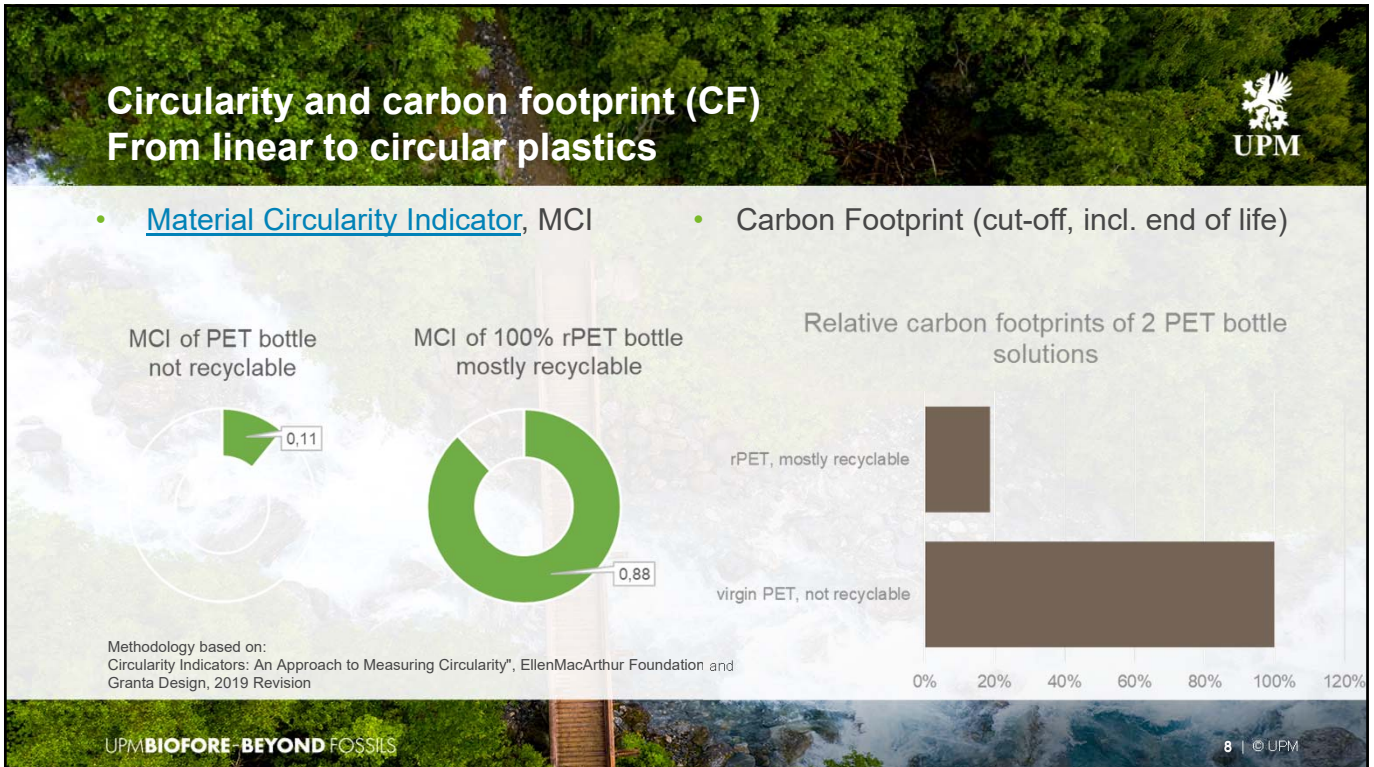
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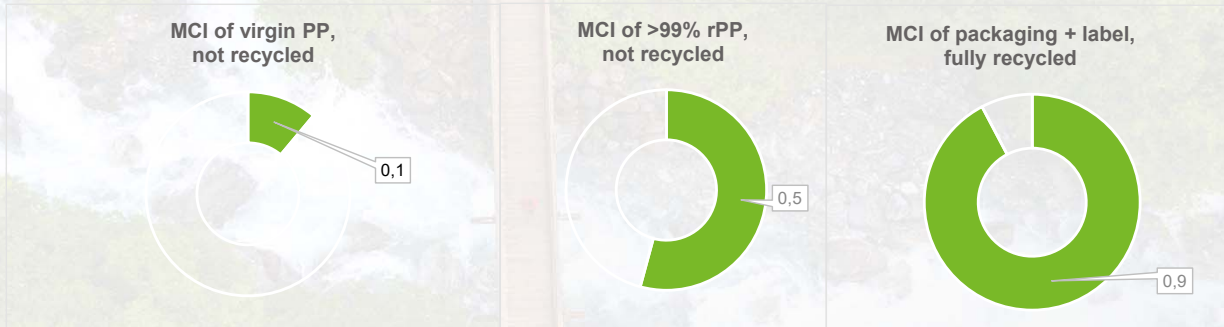


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## When the carbon footprint is not conclusive...



- cPCR materials have a niche in the waste treatment system
- Material Circularity Indicator, MCI, can support in underpinning their relevance



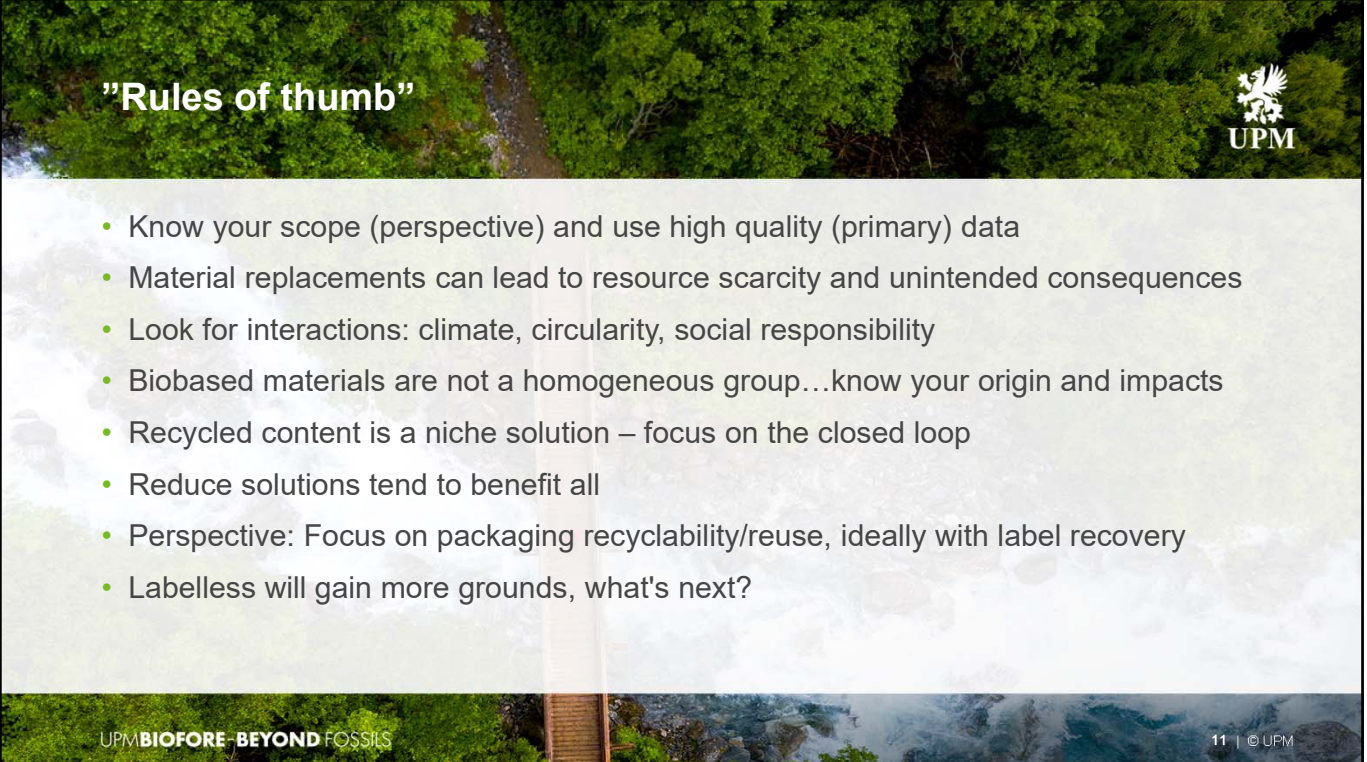
## It is complex, what to do about it?



- Multi-criteria decision making


Business strategy ↓ (Primary) data, normalized

		Source 1	Source 2	Source 3	
Standardized →	<b>Weightings</b>				
	Circularity	1	0.8	0.7	0.75
Individual →	Climate	2	0.9	0.8	0.7
	Traceability	1	0.7	0.7	0.3
	Availability	2	0.2	0.5	0.6
	<b>TOTAL</b>		<b>0.62</b>	<b>0.67</b>	<b>0.61</b>



**”Rules of thumb”**

- Know your scope (perspective) and use high quality (primary) data
- Material replacements can lead to resource scarcity and unintended consequences
- Look for interactions: climate, circularity, social responsibility
- Biobased materials are not a homogeneous group...know your origin and impacts
- Recycled content is a niche solution – focus on the closed loop
- Reduce solutions tend to benefit all
- Perspective: Focus on packaging recyclability/reuse, ideally with label recovery
- Labelless will gain more grounds, what's next?

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**UPM **BIOFORE****  
**BEYOND** FOSSILS 

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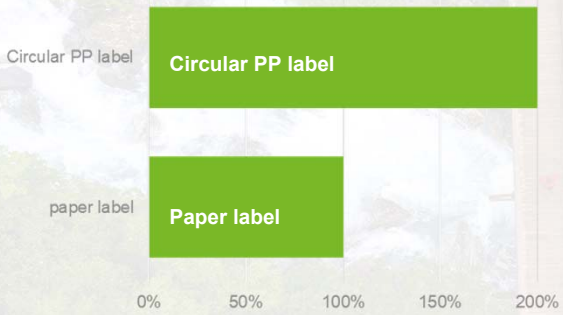
# Why perspective matters?



- Design for recycling of the packaging trumps label design alone

Relative carbon footprint of 2 label materials

**Excl. biogenic carbon**



Relative carbon footprints of 2 bottle designs

**Excl. biogenic carbon**

