



# A holistic multi-indicator approach for sustainability decision making

*From measurement to management: how LCA can support sustainable business transformation and where it needs to be complemented by other additional insights*

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# Agenda

- 01 Introduction & Context
- 02 From data to a holistic strategy:  
A Case Study
- 03 Conclusion & Outlook



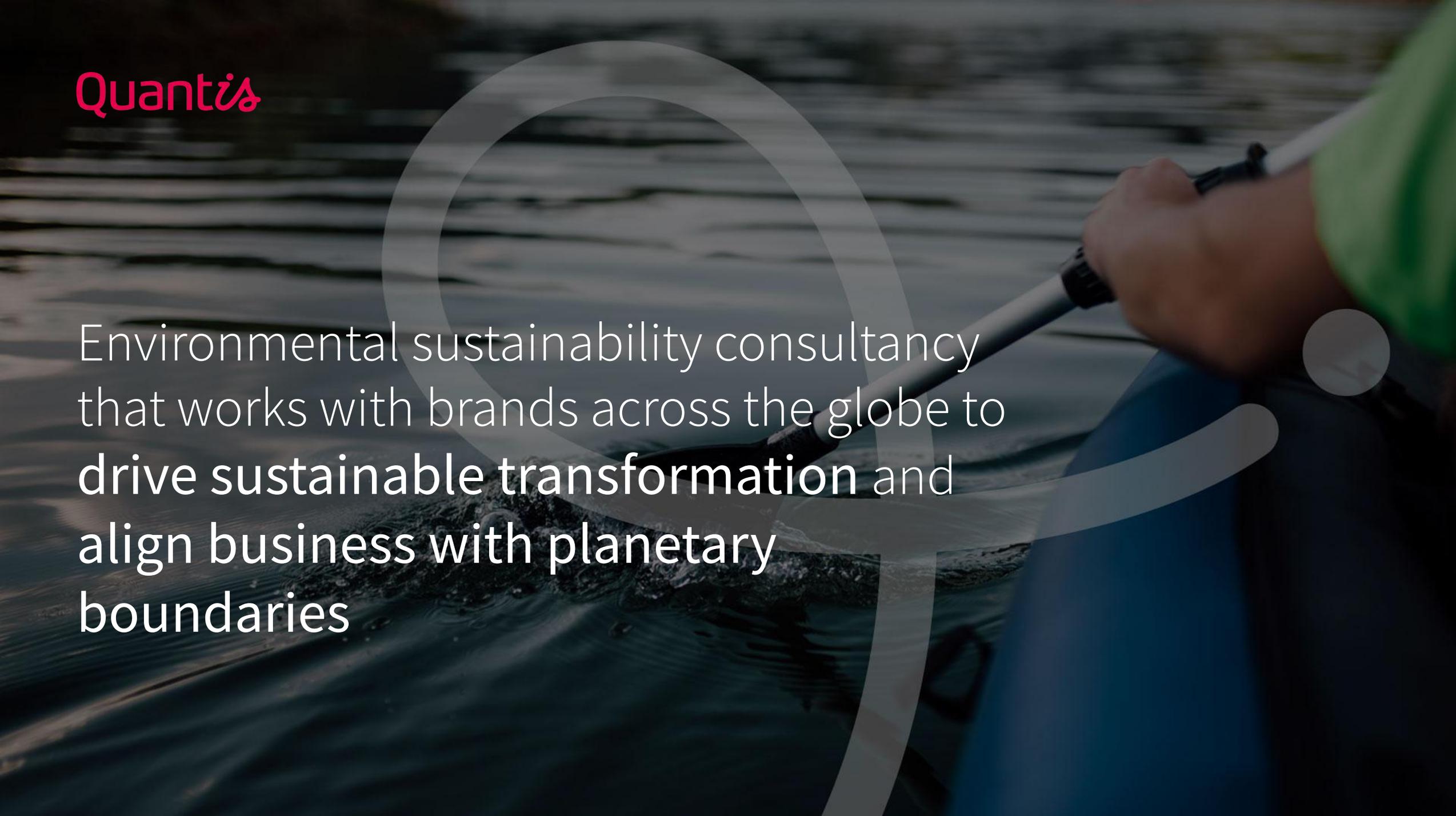
# Speakers



Stefan Frehland

**Quantis**  
Sustainability Consultant

[Link](#)



Quantis

Environmental sustainability consultancy  
that works with brands across the globe to  
**drive sustainable transformation** and  
align business with planetary  
boundaries

An aerial photograph of a coastline. The top half of the image shows clear, turquoise water with visible sandbars and shallow reefs. The bottom half shows a sandy beach transitioning into a darker, more vegetated area. The overall scene is bright and clear.

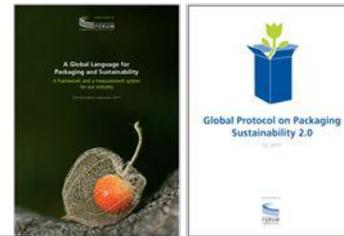
01

# Introduction & Context

# Packaging Sustainability: from common understanding to common metrics



Packaging in the Sustainability Agenda: A Guide for Corporate Decision Makers



The Consumer Goods Forum Global Packaging Project Framework & Measurement System



Promoting greener goods: the Product Environmental Footprint  
Methodological alignment for products in Europe



Ellen MacArthur Foundation – Circular Economy  
Framework and methodological alignment, e.g. MCI indicator

# Our journey towards multi-metrics packaging assessments: going beyond LCA



## The PEF initiative - LCA based

In **2018** Quantis developed the EFBW (now NMWE) – **PACKED WATER PEFCR**, the category rules for bottled water in the context of the EU Product Environmental Footprint (PEF) initiative.



## The SPHERE framework - beyond LCA

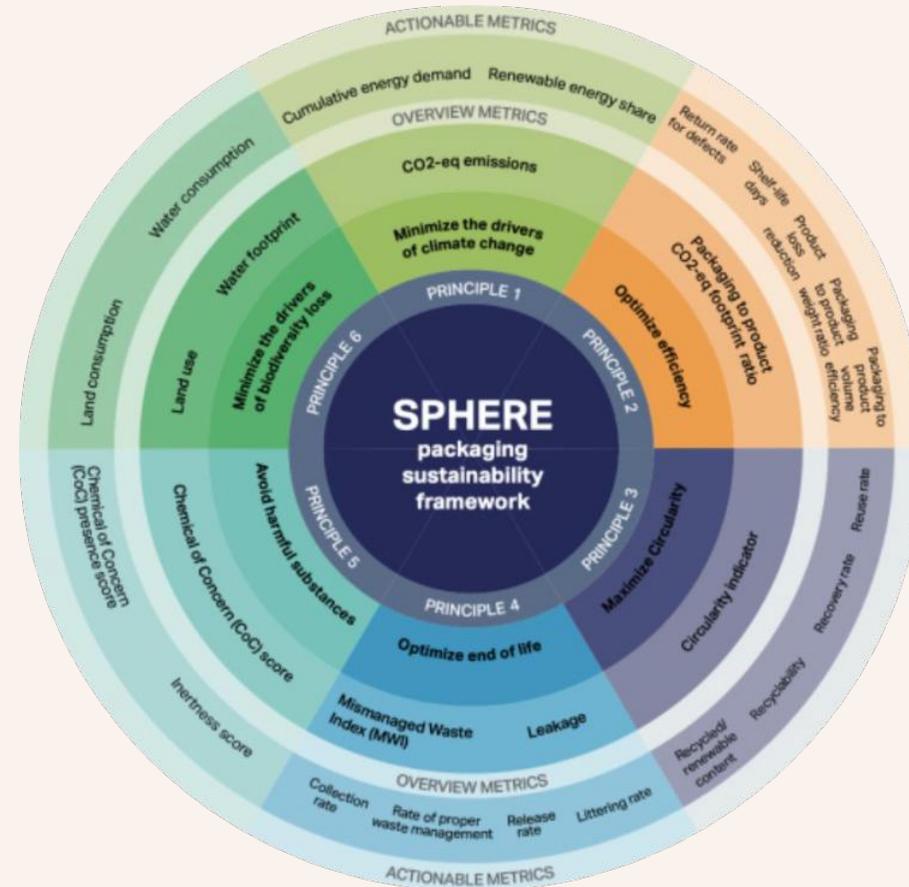
In **2022** together with WBCSD and industry partners, Quantis has developed the **SPHERE framework** for packaging, a common global framework to evaluate packaging systems, support decision making and set targets for the industry.

# SPHERE: The Packaging Sustainability Framework (WBCSD)

Framework guiding principles:

- Sustainability in packaging is defined by 6 principles.
- Each principle is measured by at least one metric.

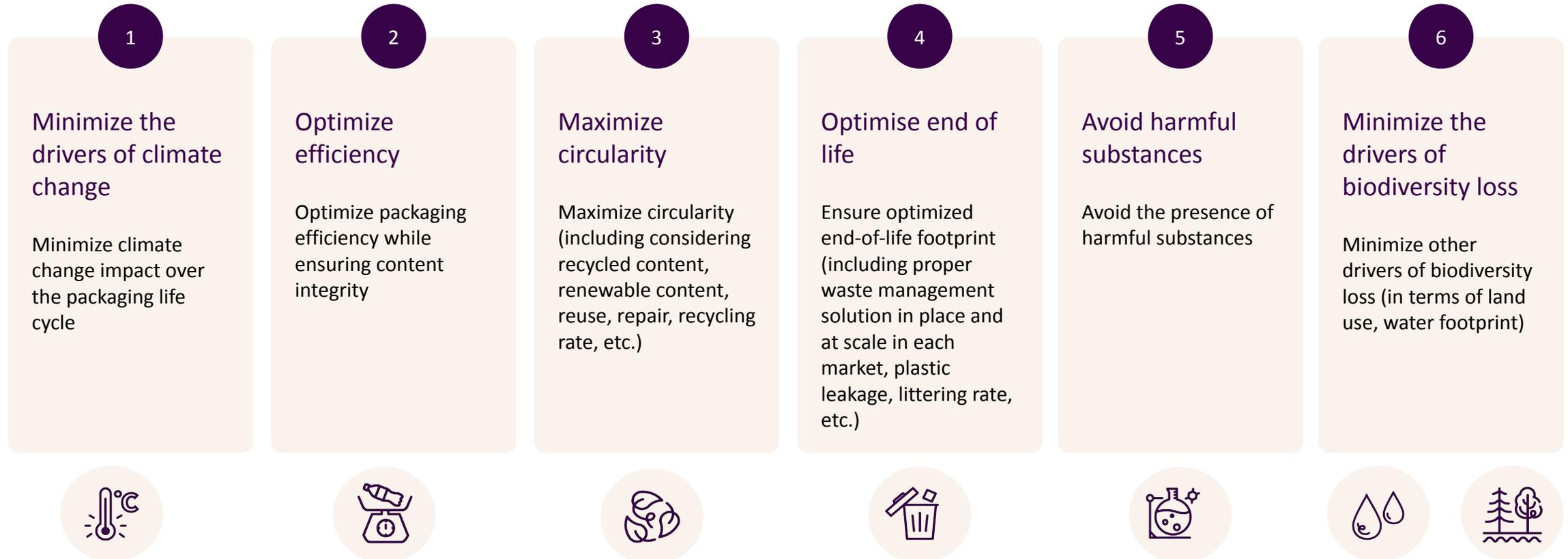
Available at [www.wbcscd.org](http://www.wbcscd.org)



*SPHERE was developed by Quantis, EA and South Pole for the WBCSD. It was recently launched in mid-April 2022.*

# 6 principles for sustainability in packaging definition

SPHERE defines sustainability in packaging as maximum circularity and minimum environmental footprint, while avoiding the presence of harmful substances.

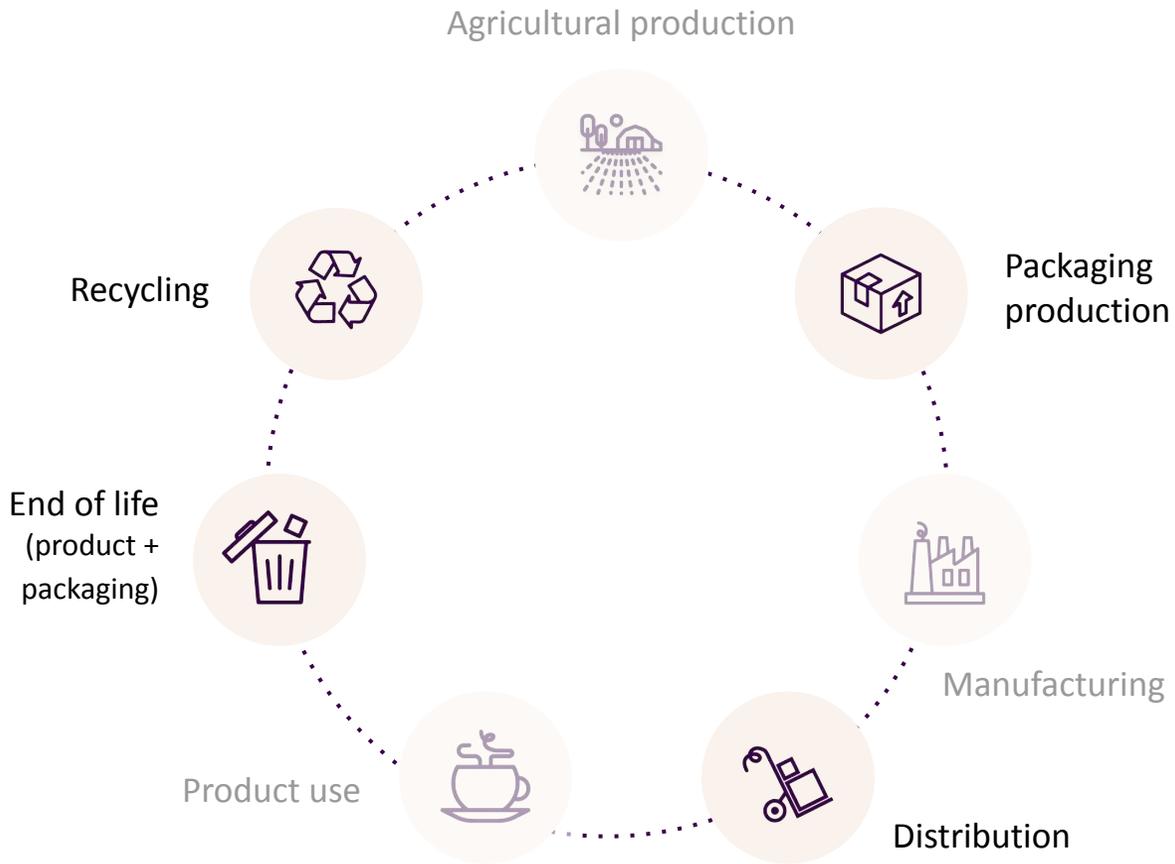


An aerial photograph of a coastline. The top half of the image shows clear, turquoise water with visible sandbars and shallow reefs. The bottom half shows a sandy beach transitioning into a lush, green forested area. The overall scene is vibrant and scenic.

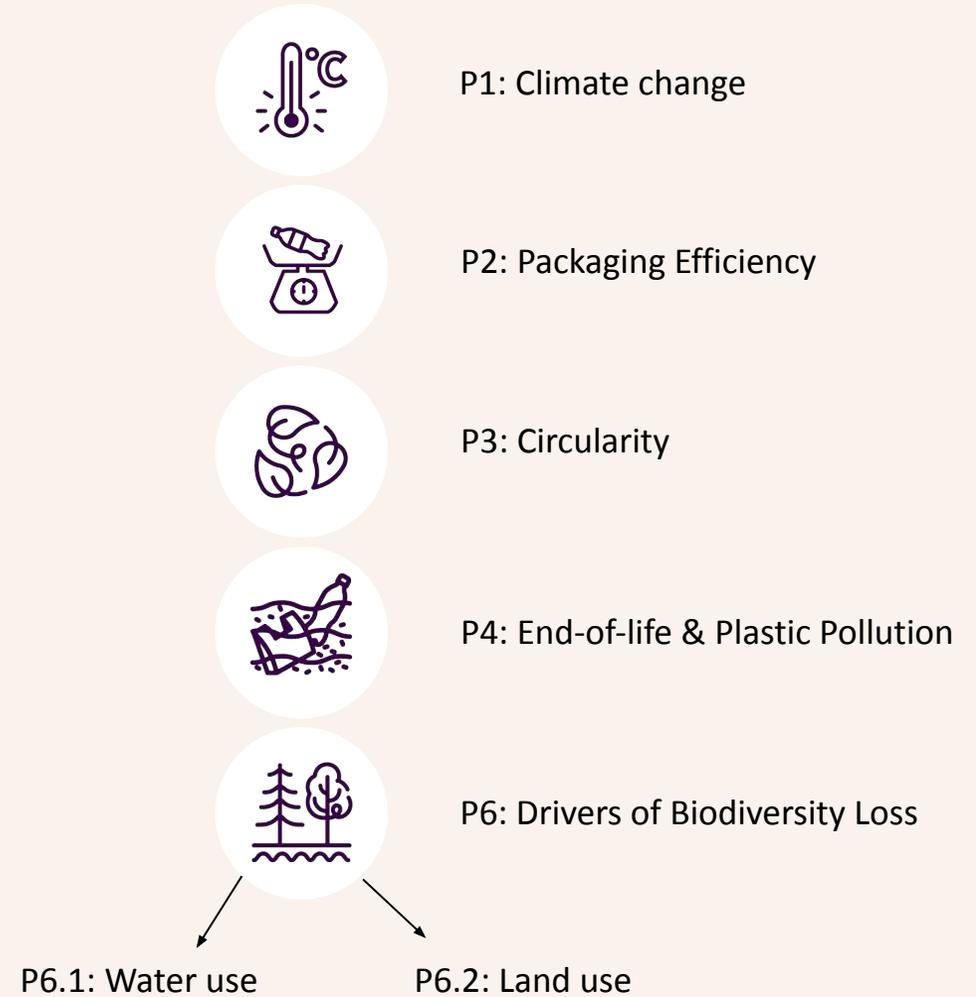
02

# From data to a holistic strategy: A Case Study

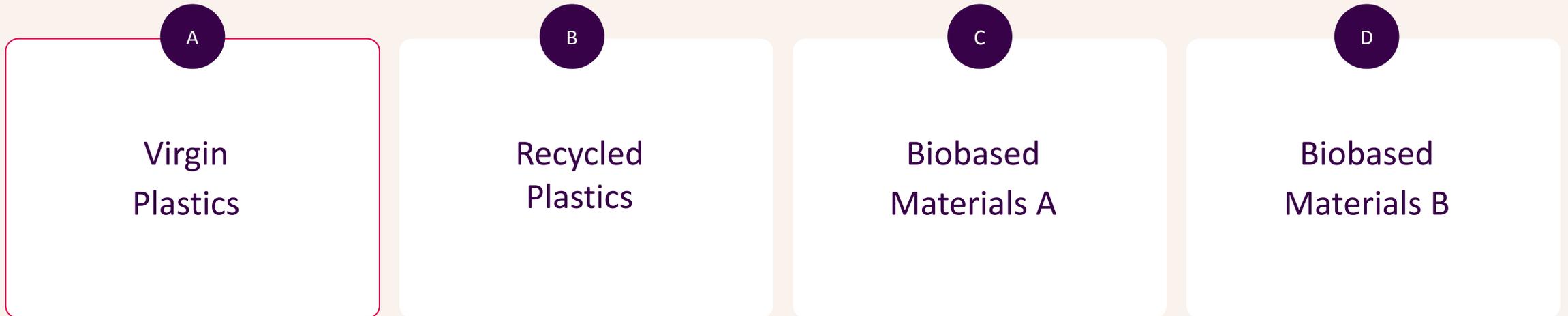
# System Boundaries



## SPHERE Principles Assessed:



# Scenarios analysed



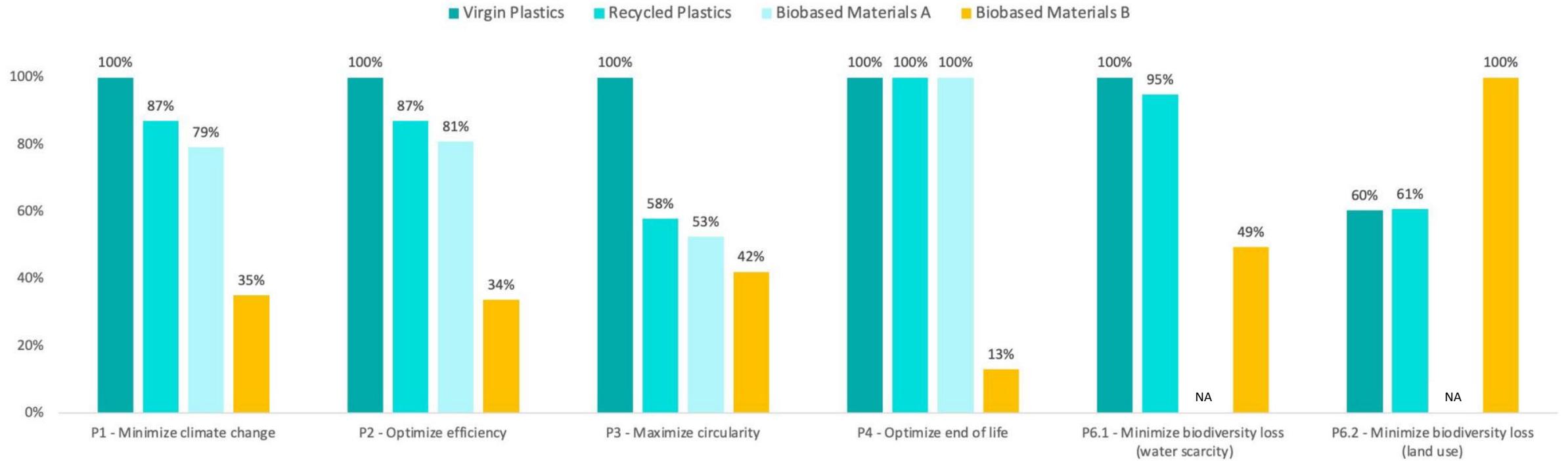
**Functional unit:** 1 cup of a drink (serving size)

**Distribution markets** (selected) to cover two perspectives:

- Representativeness of high levels of mismanaged waste (for the waste / circularity representation)
- Representativeness of relative presence in volume (for the emission representation)

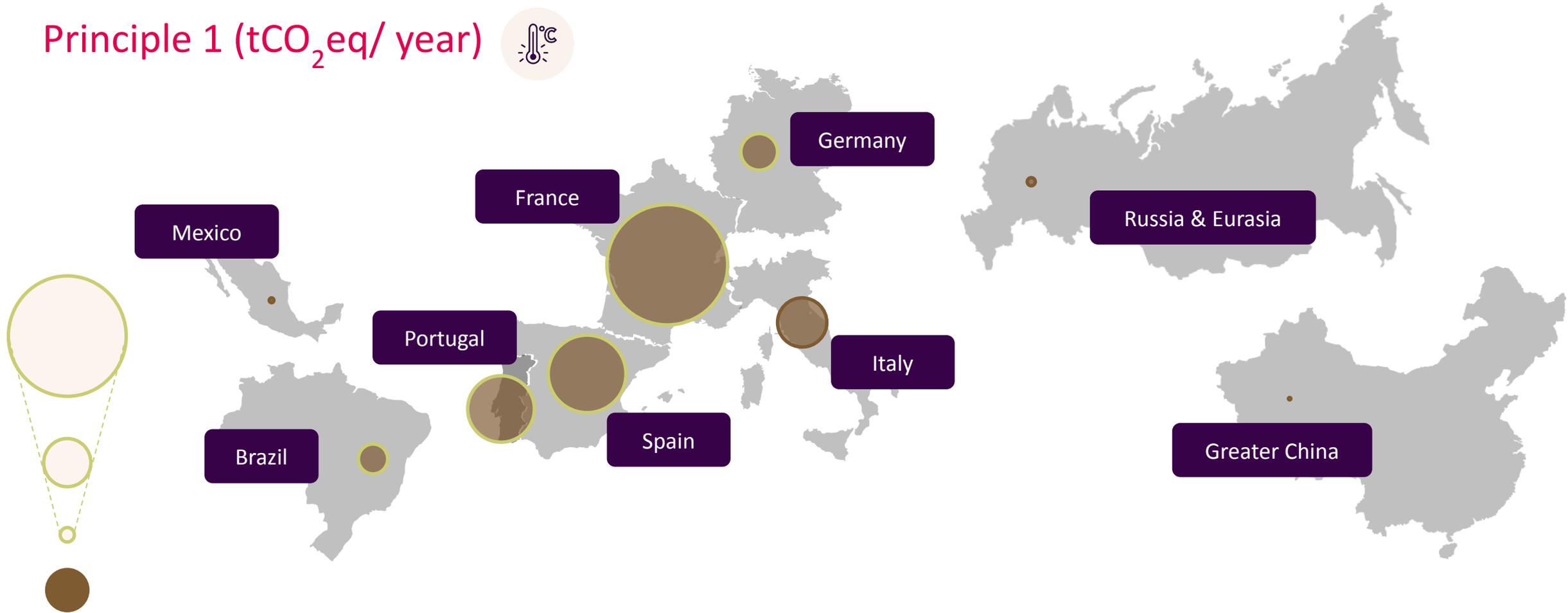
# Product packaging, all markets

Packaging comparison by framework principle



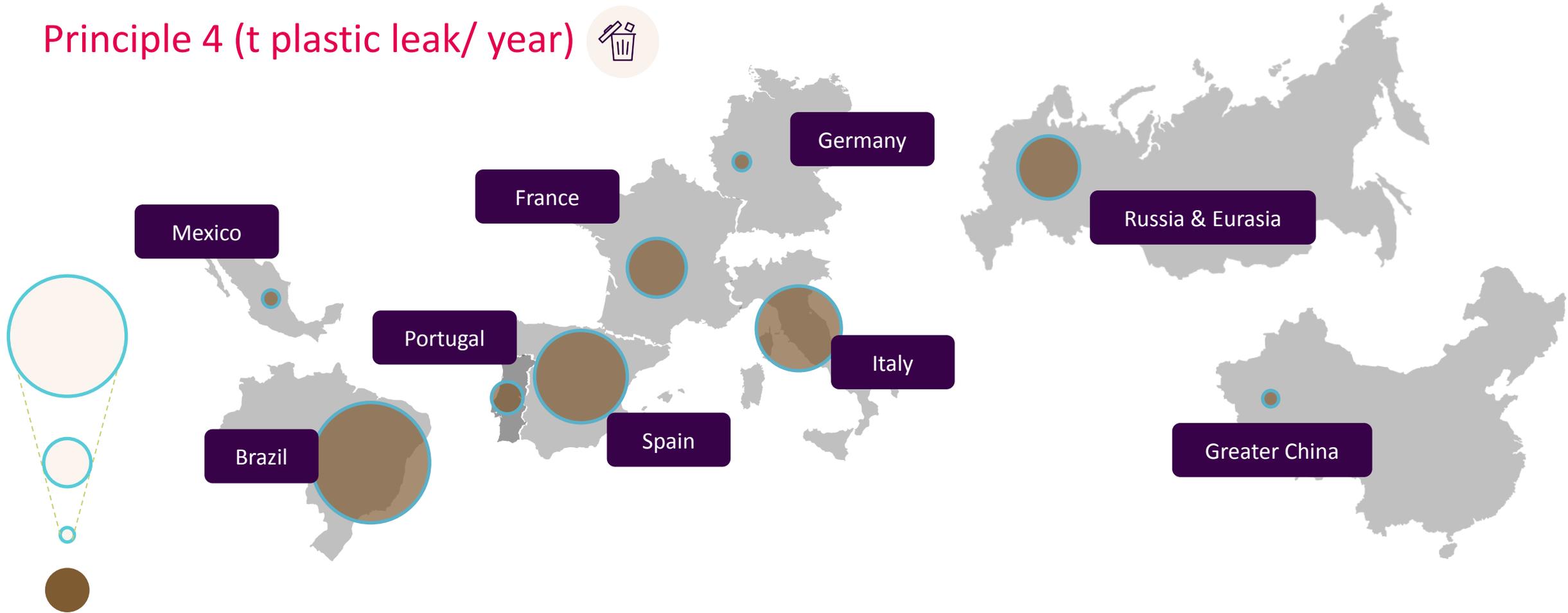
# PORTFOLIO A – Virgin Plastics

Principle 1 (tCO<sub>2</sub>eq/ year)



# PORTFOLIO A – Virgin Plastics

Principle 4 (t plastic leak/ year) 



# 100% "Option D: Biobased Materials B" adoption by 2030

 **CO<sub>2</sub> reduction (t CO<sub>2</sub> eq) from Virgin Plastics to Biobased Materials B by 2030**



 **Plastic leakage reduction (t) from Virgin Plastics to Biobased Materials B by 2030**



-  **High priority markets:** With significant impact reduction for only one indicator (either carbon footprint or plastic leakage)
-  **Very high priority markets:** With significant impact reduction for both carbon footprint and plastic leakage indicators

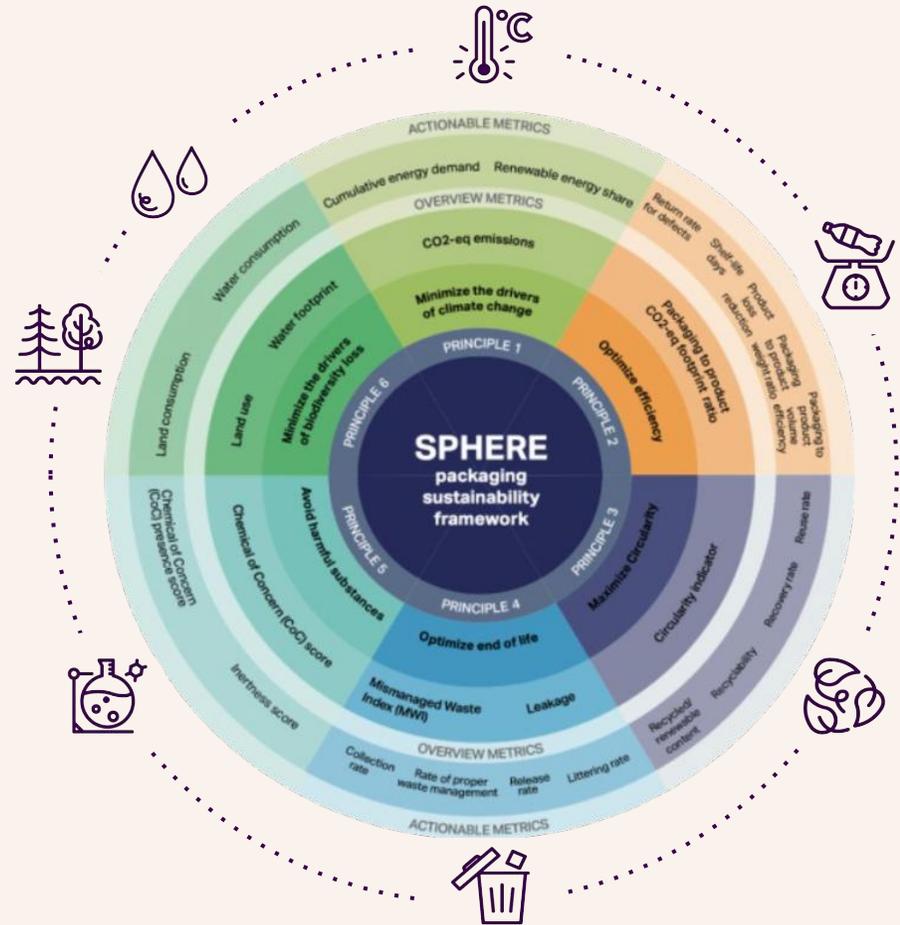
An aerial photograph of a coastline. The top half of the image shows clear, turquoise water with visible sandbars and shallow reefs. The bottom half shows a sandy beach curving along the shore, with some vegetation and buildings visible in the distance. The overall scene is bright and scenic.

03

## Conclusion & Outlook

# Takeaways

- + SPHERE provides a platform for **multicriteria** decision making for companies with simultaneous **LCA and circularity-related objectives**.
- + It provides a **packaging system perspective** combined with a **market perspective** to fully identify packaging system and market specific improvement opportunities.
- + SPHERE, among other initiatives such as MariLCA constitute important steps towards a transition from **accounting for LCA and circularity in parallel towards fully integrating circularity attributes into LCA**.



Quantis



Thank you

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