

00101100010111000110010100011000100010010



10101011000011110010100010000101010001000

THE SUSTAINABILITY THREAD

*Designing your product data model
to drive green R&D*



ABOUT THE SPEAKER: KLAUS BRETTSCHEIDER



- **Environmental Engineer**
- **PLM Professional**
- **PLM Green Global Alliance**
- **Sustainability Studies at Harvard**
- **Director for Sustainability Products**

German by birth,
Franconian by the
grace of God,
American by
choice.
- Hans





The **PLM Green Global Alliance (PGGA)** is an international community of professionals who work with Product Lifecycle Management (PLM) enabling technologies and who are collaborating, educating, and advocating for a more sustainable decarbonized circular economy.

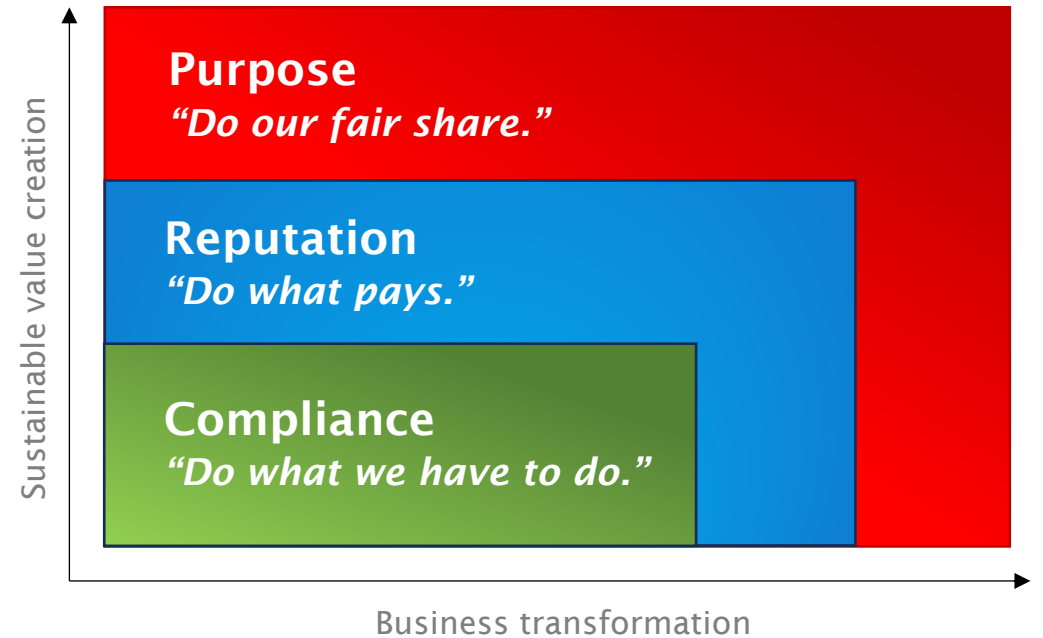
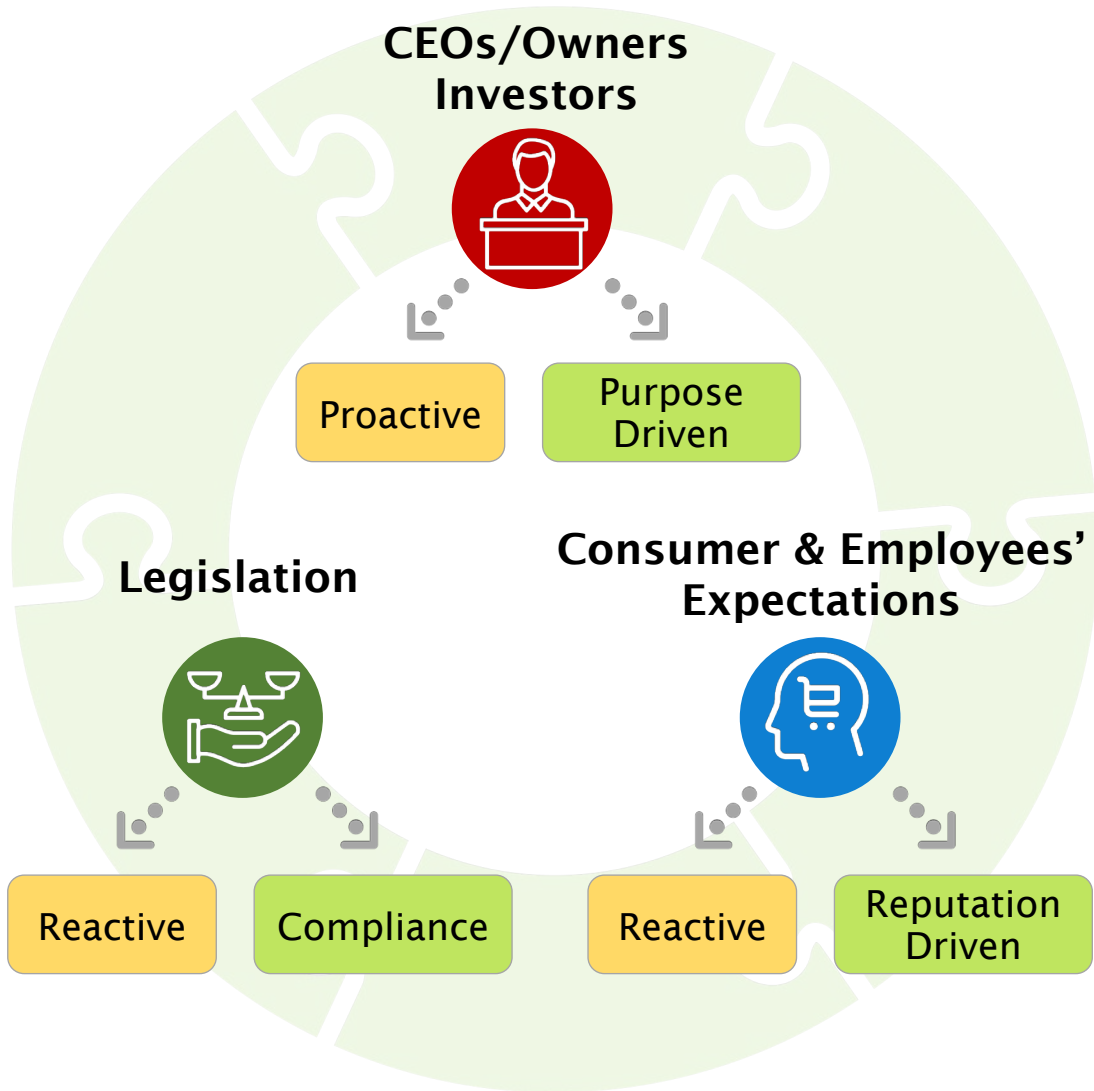
Founded in 2020
Richard McFall in North America; Jos Voskuil in Europe

 plmgreenalliance.com

 <https://www.linkedin.com/groups/12304531/>

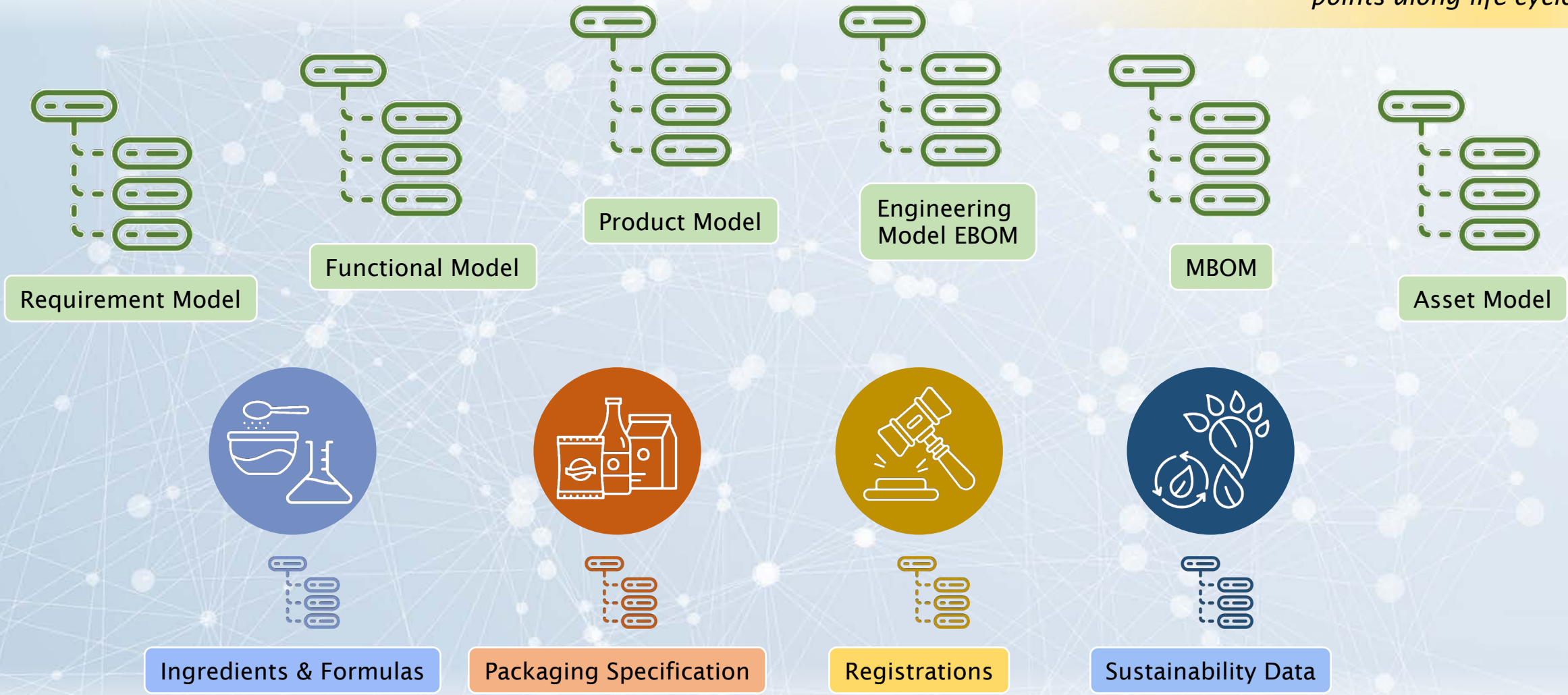


🌱 THREE DRIVERS OF CORPORATE SUSTAINABILITY



TWINS AND MODELS AND THREADS

Digital thread/sustainability thread connects virtual data models at points along life cycle





THE SUSTAINABILITY THREAD AT WORK

001011000101110001100101000110001000100101010101100001111001010001000010101000100010200100010110010110001011100

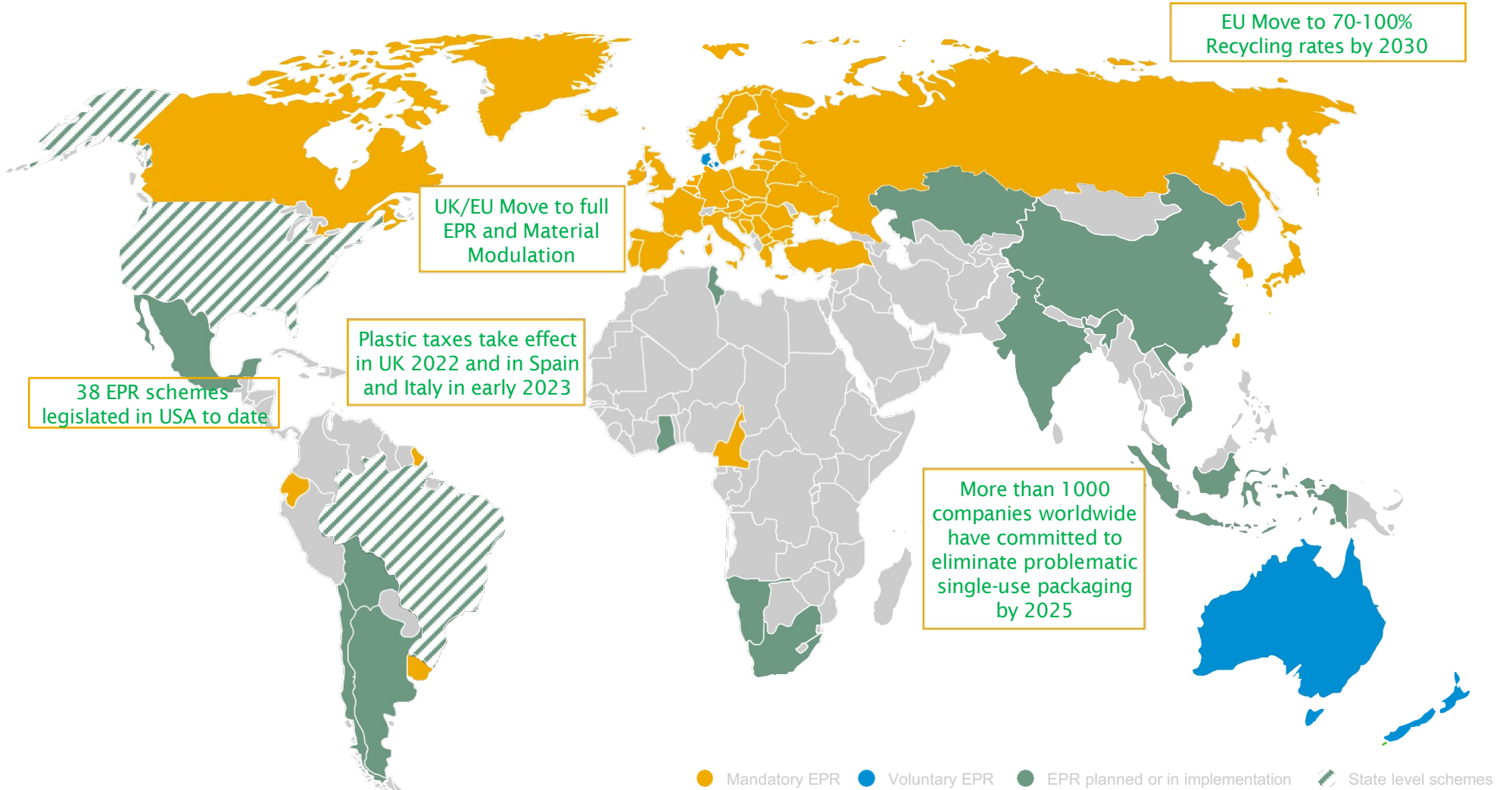
- 🌿 **UK Plastic Tax**
- 🌿 **Product Registration**
- 🌿 **Carbon Footprint**



CUSTOMERS FACING INCREASING REGULATIONS, TAXES, AND EPR

Plastic Pacts in place

- 1 UK
- 2 France
- 3 Chile
- 4 Netherlands
- 5 South Africa
- 6 Portugal
- 7 USA
- 8 Canada
- 9 Poland
- 10 Europe
- 11 Malaysia



UK PLASTIC PACKAGING TAX

What's the deal...

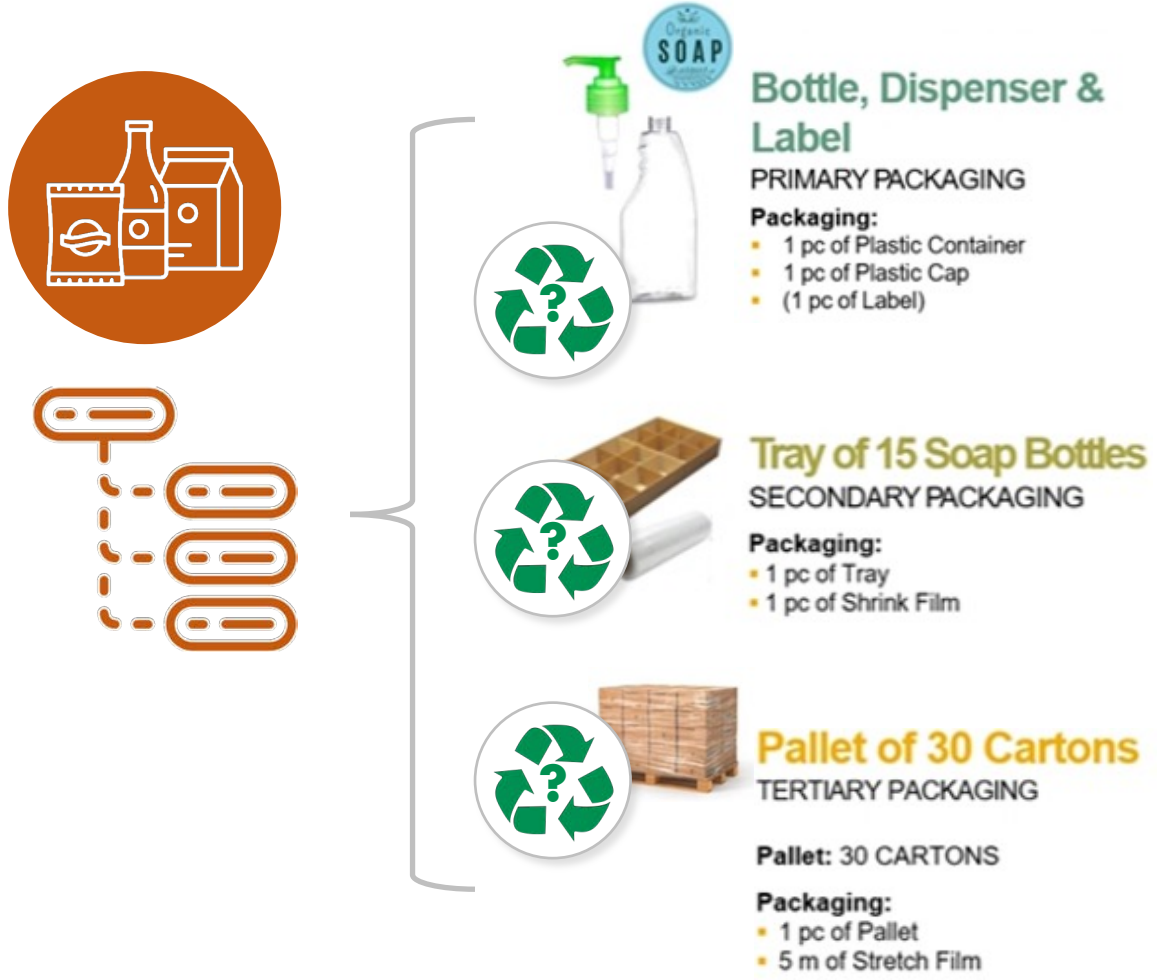
- Manufactured or imported 10 tonnes of plastic packaging in 12 months
- Packaging that contains more plastic by weight, but packaging that contains at least 30% recycled plastic is exempt
- £200/tonnes

What to do determine...

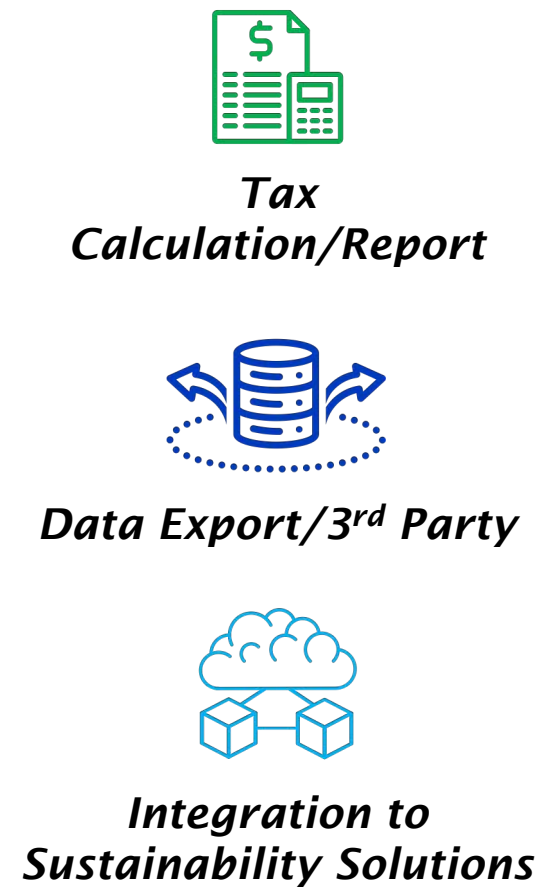
- Packaging weight
- Plastic-to-packaging weight ratio
- Recycling percentage of plastic material
- Sales/import volume over the last 12 months
- Sales/import volume over the next 12 months
- Tax amount

Businesses that import or manufacture less than the 10-tonne threshold will also be subject to record-keeping requirements to evidence that they have not breached the 10-tonne threshold.

UK PLASTIC PACKAGING TAX



Sustainability makes PLM cool.
- Kathy



PRODUCT REGISTRATION

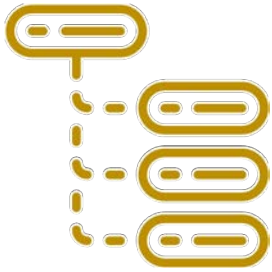
What's the deal...

- **Registration Requirements**
 - Chemicals
 - Fertilizer
 - Pesticides
 - etc.
- **Label Requirements**
 - Product Claims
 - Religious Certifications
 - Diet Verification
- **Volume Limitations**

What to do determine...

- What ingredients/materials are in my product?
- How do we restrict sales where registration requirements exist?
- How do we ensure that the product claims on the label are correct for the specific jurisdiction?
- How do we track the volumes of chemicals if we are limited in our registration?

PRODUCT REGISTRATION



- ✓ Pennsylvania
 - ✓ Maine
 - ⊘ Texas
- kosher for Passover
 - non-GMO, vegan, GF
 - organic, sustainably sourced
- certification renewable date
 - expiration dates



*How to prove product claims.
- Christopher*



Report



Notifications



System Restrictions

R&D accounts for...

5%

or less of the total
cost of a product

80%

Influences up to
of product's
resource footprint



USE CASE: Paper Packaging Producer

- Enable designers to make green decisions
- Consult customers to use greener packaging
- Provide customers with environmental impact information

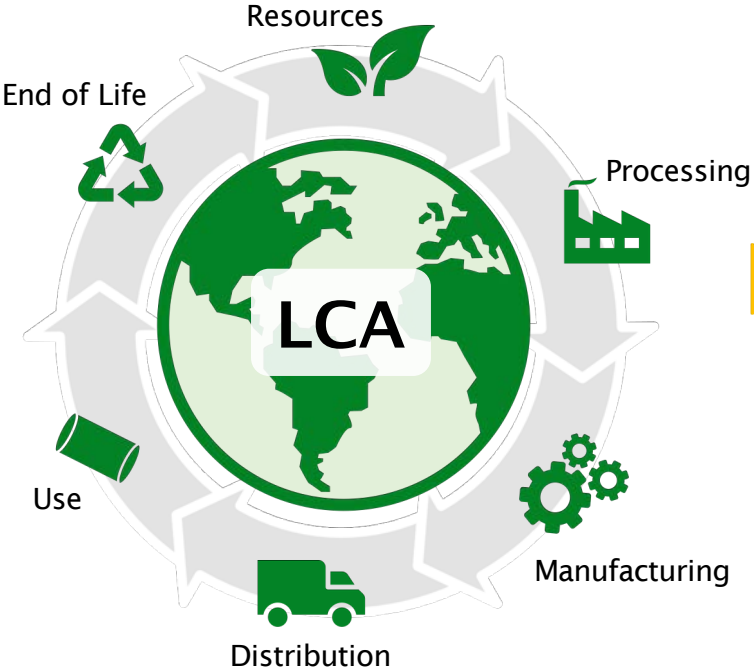


LIFECYCLE ASSESSMENT DURING DESIGN PHASE

Lifecycle assessment of material data

Feeds data model for sustainability

Informing real-time design decisions



How to report the carbon impact of my product.
- Derek

WHAT ABOUT ESG?

ESG DATA SOURCES



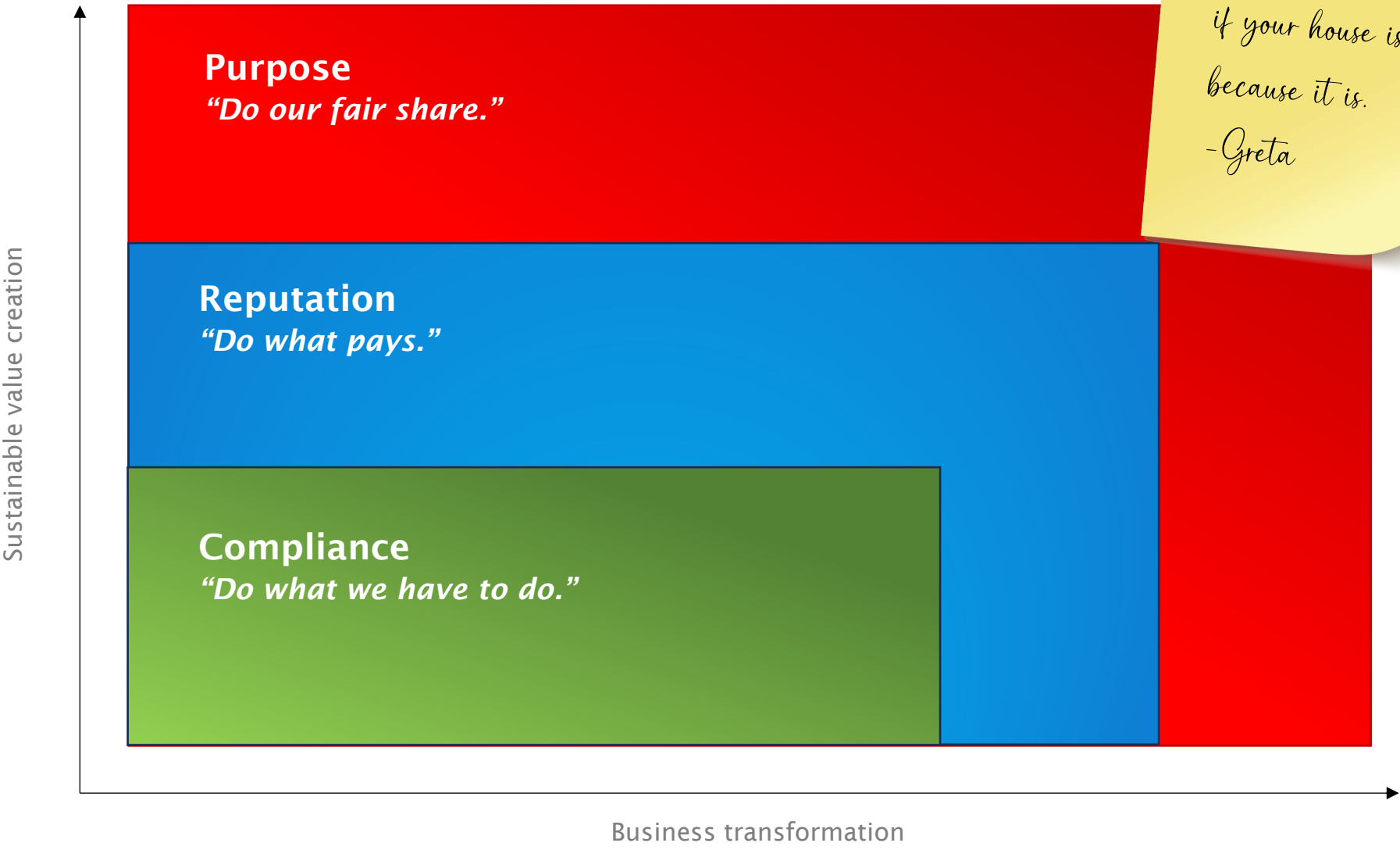
NO TWINS TO HELP HERE

- Salary Level
- Workplace incidents
- Corruption
- Pollinator health
- Lead blood level in workers

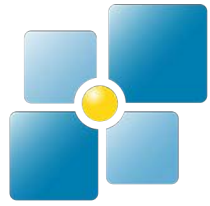


Sustainability seems too far away for us.
- Frank

EXTEND TO THE PURPOSE



I want you to act as if your house is on fire because it is.
-Greta



Linx-as™



HEADQUARTERS

751 Arbor Way
Suite 110
Blue Bell, Pennsylvania 19422
United States



610-992-9333



info@linxas.com

www.linxas.com



@LinxASLLC

Klaus Brettschneider

Director, Sustainability

215-917-9720

kbrettschneider@linxas.com