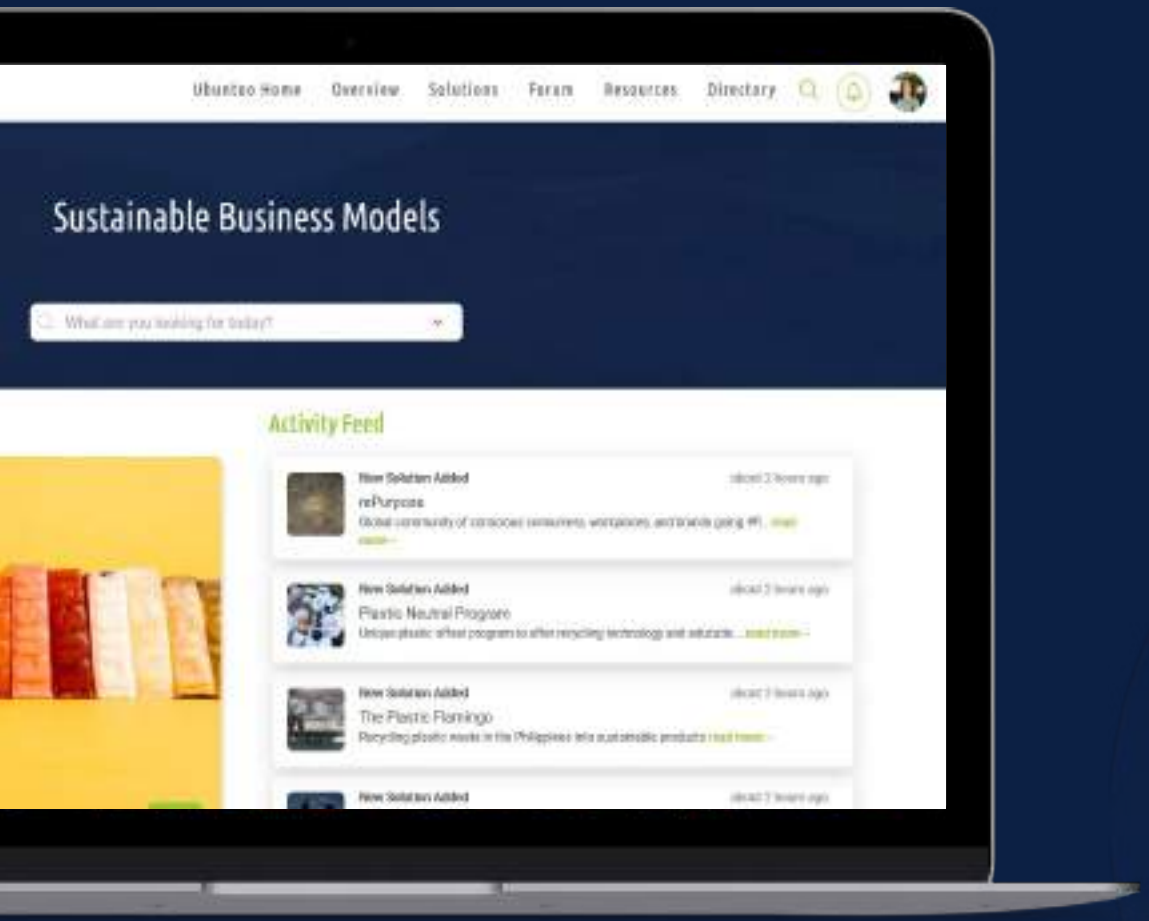


Sustainable Business Models

September 2021

The Clorox Company

ubuntoo

Reusable & Refillable Packaging Summary Learnings

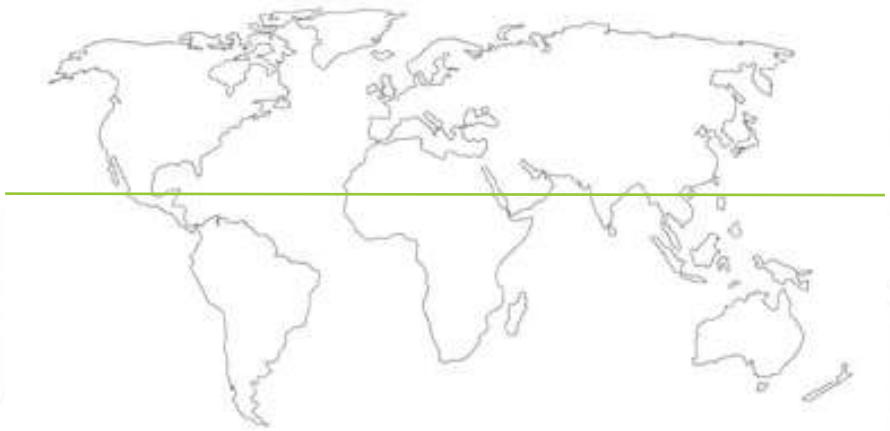
1. **Historical Trends**
   - Decline of Reusable packaging
2. **Consumer Perspective**
   - Consumer Acceptance
   - Social Media Analytics
3. **Environmental Perspective**
4. **Opportunities and Barriers**
5. **Industry Examples**
6. **Conclusion & Implications**

20th Century

1st Half

- Hygiene / food safety
- At home market
- Establishment of reverse logistics

Special Occasion / Horeca /
Single-serve Premium quality



Affordability / At home / Multi-serve

2nd Half

- Emergence of One-way Packaging
- Steep decline of returnable packaging in global North

Returnable packaging long considered as competitive “fortress”

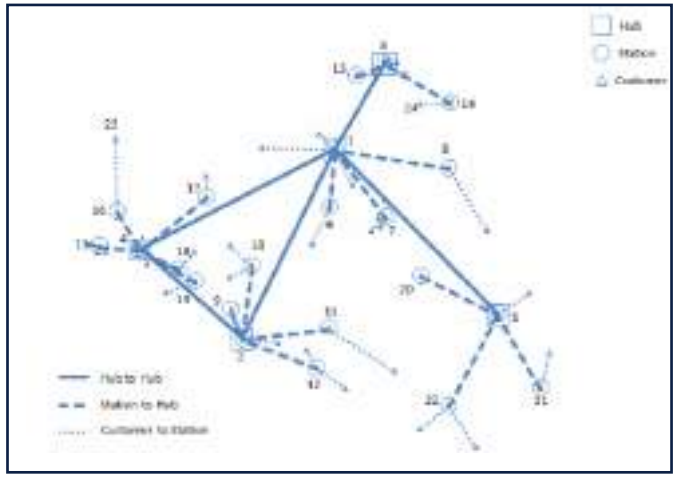
Actual prices for 0,5 litre carbonated soft drinks packaging

Type of packaging	Price per packaging in ECU (5.4.5)
One-way glass (Standard VI)	0,047
Aluminium can incl. top	0,103
PET-One-way bottle	0,069
Glass Reuse bottles	0,103
PET-Reuse bottle	0,133

Packaging Financials

Cost	Turns
x2	X25+

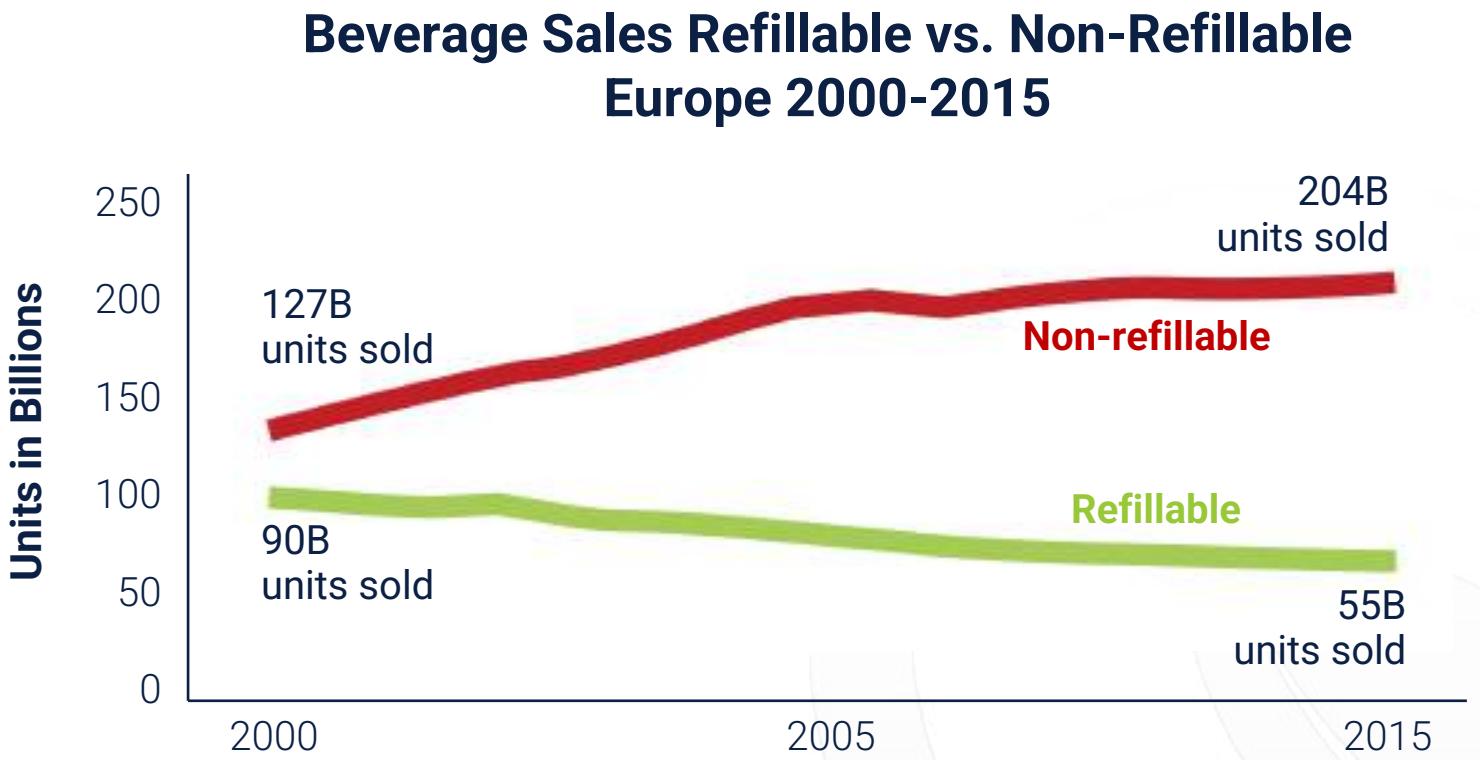
Reverse Logistics



Hub & Spoke Distribution Dense Areas

Consumer Habit / Household “lock-in” / Affordability

But Low-cost & Convenient Single-Use Packaging Has Taken Over



Source: ReLoop Platform https://www.reloopplatform.org/beverage-sales-by-container-type-in-austria-16/

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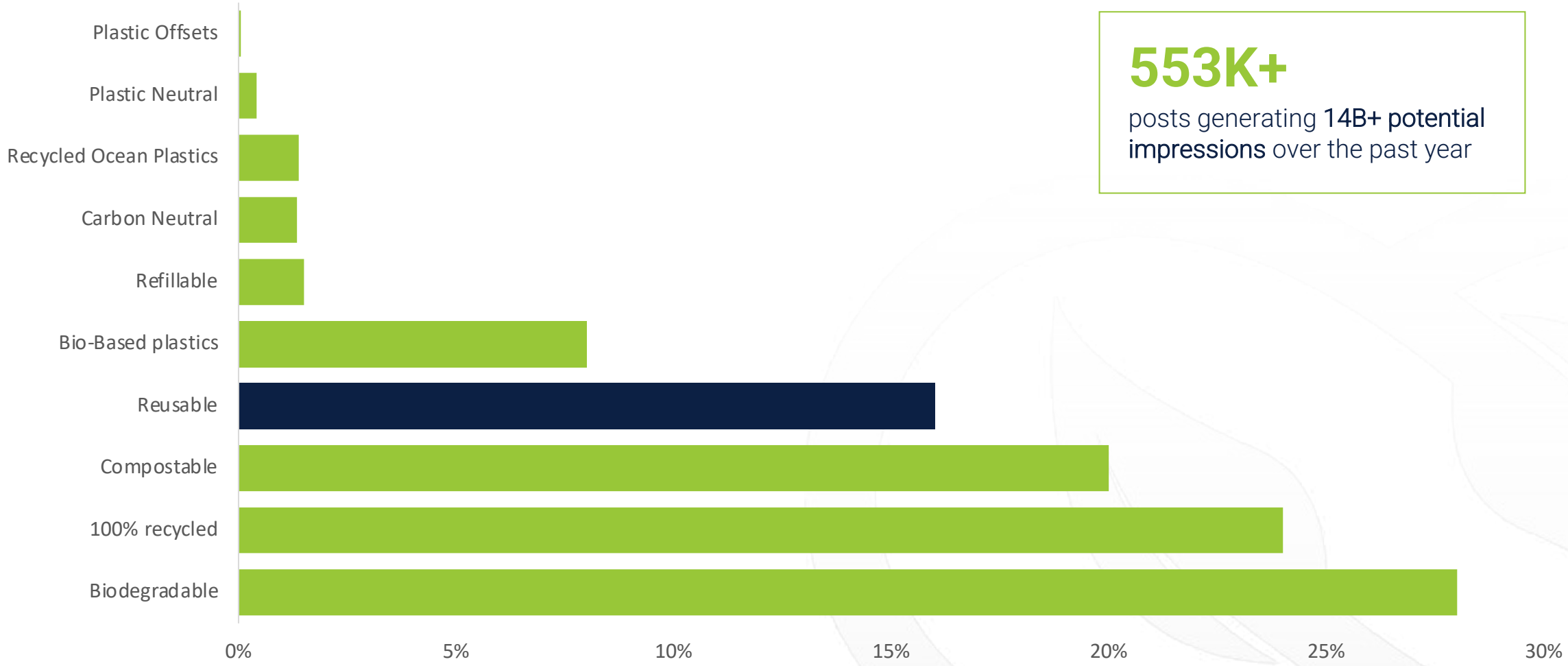
Active social media conversation on reusable packaging

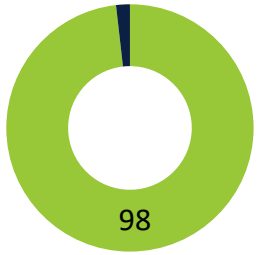


553K+

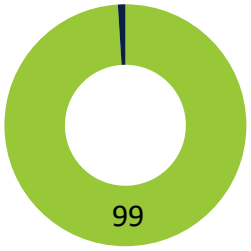
posts generating **14B+ potential impressions** over the past year

Reusable Packaging Enjoys Positive Sentiment

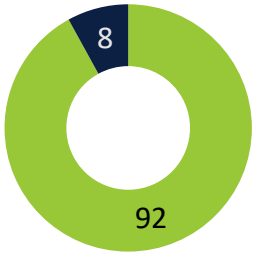
100% Recycled



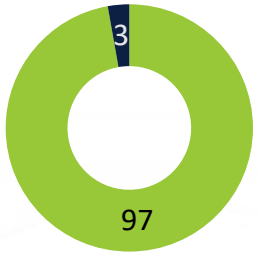
Plastic Neutral



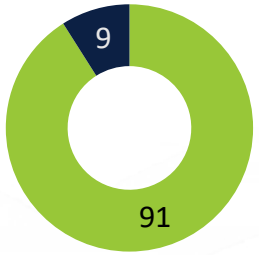
Plastic Offsets



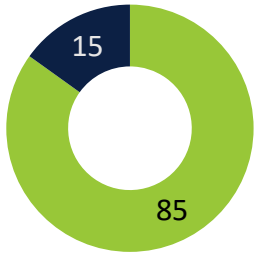
Recycled Ocean Plastics



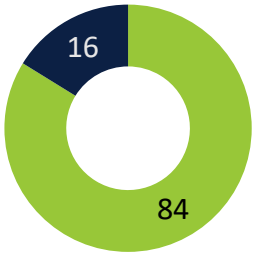
Carbon Neutral



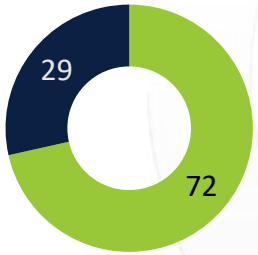
Biodegradable



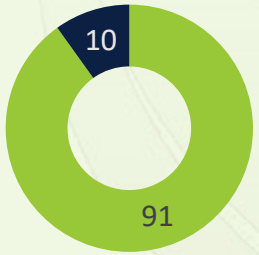
Compostable



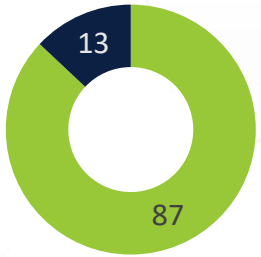
Bio-Based Plastics



Reusable



Refillable



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Utrecht University, Reloop and Zero Waste Europe

Reusable vs. Single-Use Packaging: A review of environmental impacts

Out of 32 LCAs that compared reusable and single-use packaging

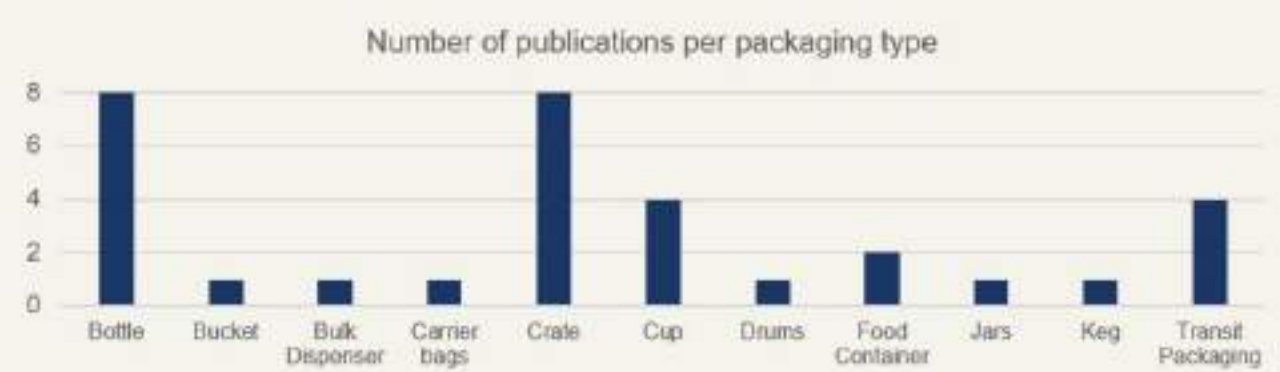

Figure 7: Papers selected divided by the types of packaging analysed.

8 studies that analysed bottles:

5	2	1
Positive	Mix	Negative

4 Main Factors Make Reusable Packaging in General More Sustainable

For single-use packaging, production is usually the most impactful stage. For reusable packaging, **production emissions are drastically reduced by increasing the number of cycles**. The packaging material and percentage of recycled content plays a key role in its impact.

The majority of the studies found that a product's use phase was the most impactful stage of the life cycle due to transportation emissions. The impacts of transportation are influenced by three interconnected variables: **transport distances and backhauling, weight and volume of the packaging and mode of transport**.

There is generally a **steep reduction** of impacts within the first number of cycles, which then gradually reaches a plateau. This can be explained by the fact that a reusable package's production impacts are **distributed across the life cycle**, whereas the impacts associated with transportation and end-of-life sanitisation (when necessary) are present in every cycle.

The three main end-of-life approaches considered are **recycling, incineration and landfilling**. Recycling is generally the environmentally preferable option. How the recycling is credited will also influence the final impact.

Environmental Perspective - Overview

- Very case specific
- Reusable is not necessarily the least impactful option, but still most studies showed a positive outcome
- The main factors (production, transport, number of cycles and end-of-life) are interdependent.
- The packaging should be reuse for as long as possible to increase the environmental benefits
- There are flaws in the LCA methodology which are currently being studied
- Deposit systems and standardization can be a great ally of reusable systems.

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A Revival for Reusable Packaging?

20%

of plastic packaging could be replaced by reusable systems
(Ellen MacArthur Foundation, 2017; 2019)

10% by 2030

is the increase in the share of reuse the European Parliament has called for
(Morawski, 2017)

Source: Sustainability of reusable packaging – Current situation and trends – P. Coelho, Utrecht University, 2020

Balancing Act

	Opportunities	Barriers
Consumer	• Opportunity of environmental consumer segment • **Close loop with data capture, personalization, loyalty**	• **Lack of Convenience** • Cost (in some cases)
Operations & Logistics	• Cut variable packaging cost • Product cost tablets, concentrates	• **Reverse Logistics & supply chain complexity** • Customer reticence (complexity, space limitations
Financial	• If existing infrastructure: leverage capex	• **Requires heavy capex for set-up** • Packaging as Asset • Internalize full cost of collection, refill, end-of-life
Environmental	• Accelerate Achievement of waste targets • **Overall positive LCA vs. one-way packaging** • **Stakeholder Engagement / PR-ability**	• Carbon Footprint of logistics

Business Models for Reusable Packaging

Business Models for Reusable Packaging

Refill
packaging refilled by user

Return
packaging returned to business

Refill at home

Return from home

At Home

On-the-go

Refill on-the-go

Return on-the-go

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Univerre - Super lightweight Glass

Lightweight glass containers offer benefits for manufacturers, retailers and brand Owners.

- The FDA has widely deemed glass as generally recognized as safe (GRAS) and as the only packaging material that doesn't require a plastic or chemical liner.
- **Glass is easily recyclable and can contain recycled content**. i.e., approximately **40% of the glass used in the production of Oui yogurt jars are recycled**.
- A major new study financed by WRAP (UK) for the food and drink sector has found that lightweight glass packaging can unlock significant cost savings, while retaining brand appeal.

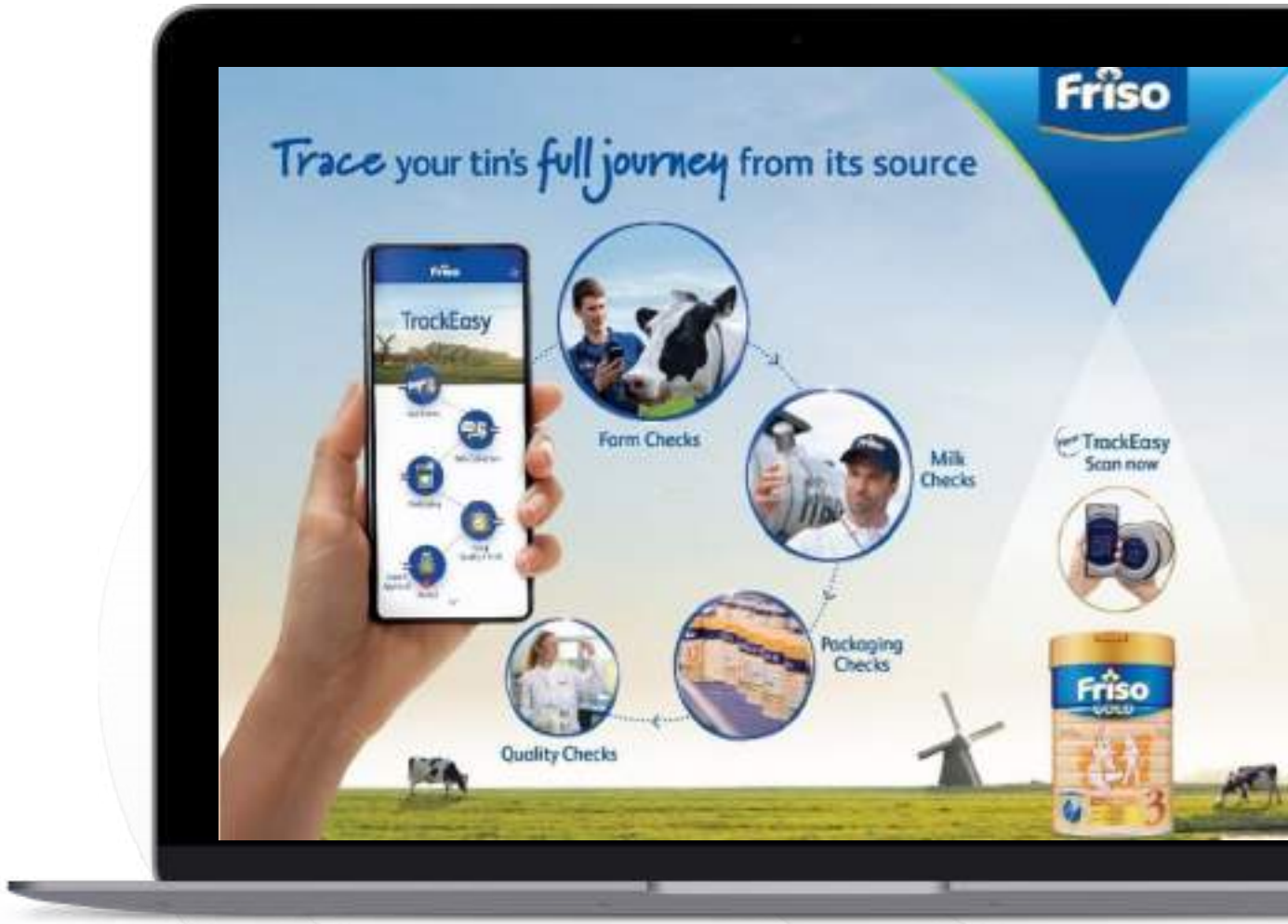
Switzerland

Lightweight Refillable PET Bottle – ALPLA & KHS

- 1-liter returnable PET bottle that can be reused and recycled (developed in partnership with KHS).
- Weight up to 10 grams less than currently available standard bottles.
- Designed for high circulation rates after an LCA examining the packaging of mineral water revealed that reusable PET bottles made from 100% recycled material had the lowest environmental impact.
- Designed as a standard pool bottle for deposit systems that can be used by customers, returned to the supermarket, bottled and filled again.
- When no longer suitable for refillable use, **it can be recycled and the material can be turned into new PET bottles**.
- **10 to 30% recycled material can be included** in the bottle and up to **100% is realistic in the long-term**

Consumer Engagement

Supply Chain Traceability



Conclusion & Implications

1 Strong consumer interest and traction behind reusable packaging

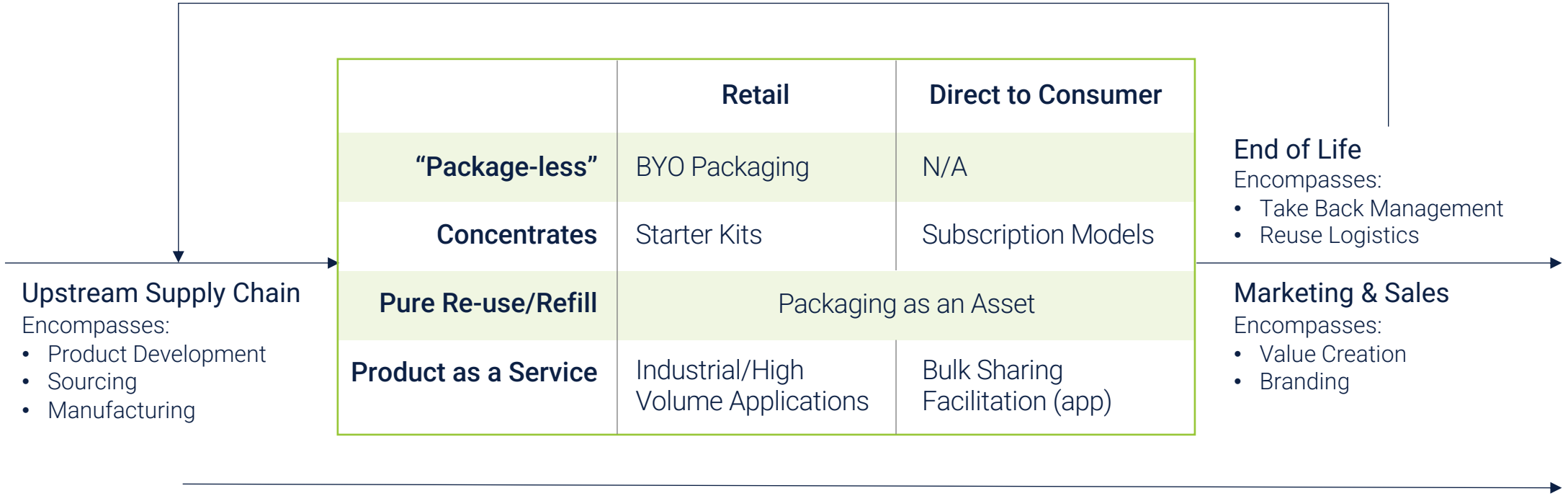
2 EMF is expected to set targets for reusable packaging

3 However, reusable packaging is facing an uphill battle, especially in the global north where its share has declined dramatically
- Prohibitive capex & reverse logistics

4 Many large F&B companies have started to partner with ecommerce platforms
- But often driven by PR considerations
- Scale will remain limited in the years to come

5 Potential stronger expansion of package-less solutions with concentration of product in combination with smart vessels

Clorox Sustainable Business Model Innovations – Classification



Explore GreenHouse

businessmodels.ubuntoo.com

"Packageless"

"Packageless" Business Models

- For this project “packageless” business models will represent any model where the retailer or consumer supplies packaging
- More common in developing countries as cost benefits can be realized for the consumer, but also emerging in the form of boutique zero-waste stores

Starbucks – Reusable Ceramic Cups

Reusable To-Go Coffee Cups

At Starbucks ~80% of beverages are served on the go. To encourage customers to choose reusable cups, Starbucks offers a $0.10 discount on their beverage when using a reusable cup.

Starbucks sells the cups in store and customers can bring them for use in store as long as they are clean.

Starbucks also offers Bring Your Own Cup service for non-Starbucks branded reusable cups.

Siklus – Refill on the Go

Refilling Products in Customer-Provided Packaging

Siklus eliminates the “poverty tax” created when low-income households buy smaller product sizes and end up paying a disproportionate amount on packaging.

Customers can bring their own containers to the mobile Siklus stations and restock on their favorite products. There is also a mobile app that helps customers order products. The mobile refill stations move to meet the demand of the customers.

Coke Freestyle Machines – RFID Chips

Automatic Charging

At universities, cruise lines, and theme parks, customers are given cups with RFID chips. These smart refillable cups directly interact with the Coca-Cola Freestyle machines, conveniently providing preset pours.

At Ohio State, the cups communicate with over 20 Freestyle dispensers. When a student runs out of drinks, they can recharge their cup with additional drink bundles as needed.

Swapp Refilling Station – Flexible Packaging Options

In Store Refills with a Variety of Packaging Options

Using Swapp refill stations at retailers, customers can either bring their own packaging, buy a glass or stainless steel bottle on the spot, or rent a bottle from the store.

Swapp is piloting their system with a shower gel, hand soap, and shampoo.

Concentrate Models

Concentrate Models

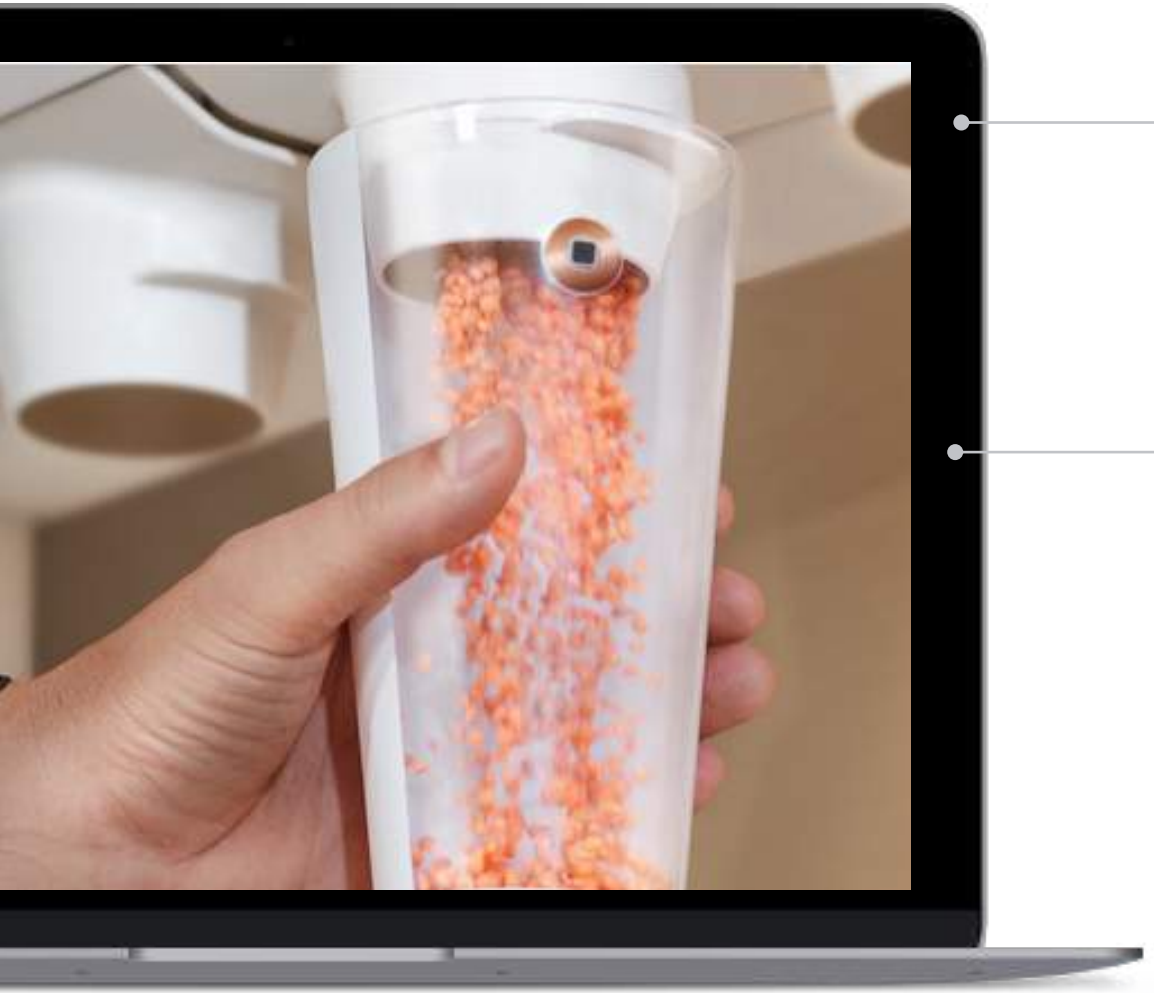
- For this project “concentrate” business models will represent any model where the manufacturer offers concentrated products
  - **Retail:** The consumer buys a packaging "starter kit" that is then reused and refilled by the consumer. Starter kits and refills are purchased in store
  - **Direct to Consumer:** The consumer buys a packaging "starter kit" that is then reused and refilled on a subscription basis. Refills are automatically delivered and are sent directly to the customer
- Popular refill options include:
  - Concentrated liquid products
  - Tablets that dissolve in water
  - Compostable/recyclable paper sachets of powdered product
  - Plastic pouches with liquid product
- Trend of carbon neutral products

Cleanyst – Keurig for Cleaning Products

Home unit that mixes home care and personal care products from concentrate

- Provide reusable bottles with a built-in mixer
- Countertop appliance delivers appropriate amount of concentrate to bottle
- Customers have the option to choose their favorite scents
- Products are delivered in plastic pouches that are placed in the machine
- Company aims to attract third-party brands interested in selling concentrates through the Cleanyst system

MIWA – Bulk Goods Sales



Bulk Selling Machines for Retailers

- Using MIWA reusable 12L capsules, retailers can create modular shelves for dispensing of a variety of goods. Using the MIWA cup, customers can shop for their favorite goods without purchasing packaging. They make an initial purchase of the MIWA cup and reuse it each time they need to restock.
- With the MIWA app, you don’t have to tare or scan labels as the machine and app communicate. You can pay for your purchase through the app, see detailed information about the product, and track the amount of packaging waste you have already avoided.

Algramo - Affordability + Packaging As a Wallet

Lowering prices of staples by eliminating packaging; packaging as a wallet

- Technology is integrated into the supply chains of global brands to scale our reusable packaging system.
- Their **Packaging-as-a-Wallet** (PaaW) communicates with their **IoT-connected-vending-machines** (ICVM) and dispense FMCG products into reusable packaging. Their ICVM are mounted on **electric tricycles** to provide Uber Eats like home REFILL for FMCG products.
- They have piloted their technology with companies like Unilever and Nestlé.

FORGO Concentrates

Concentrated powder that converts into a foaming hand wash

- One small paper sachet contains the essential ingredients needed to turn regular tap water into a full bottle of foaming hand wash in less than one minute.
- The coating of the sachet dissolves in normal paper recycling or composting stream.
- Use reusable glass bottles for the reusable packaging

Fiils

Refillable beauty products

- Refill and return system
- Customers purchase aluminum bottles and an additional refillable pouch
- Once the bottle is empty, the contents in the pouch can be transferred to the bottle
- Pouches are returned to Fiils, refilled, and shipped to another location
- Offset emissions with carbon offsetting organization
- For Clorox: are your products amenable to this type of system due to safety concerns?

Truman's

Concentrated cleaning products in recyclable plastic refill cartridges

- Refill cartridges fit in the neck of the reusable plastic spray bottles
- Cartridges are recyclable
- Cartridges contain concentrated product
- Just sold to IP to undisclosed global company for undisclosed amount

Blueland

Cleaning tablets that dissolve in water

- 300x lighter, 200x smaller, and 30x cheaper to ship than conventional products
- Starter kit includes 3 reusable bottles and 3 refill tablets
- All products and packaging are Cradle to Cradle Certified
- Refill tablet packs are wrapped in compostable packaging and shipped in paper padded mailers made from 77% recycled fibers

Nendo

Paper carton soap holder and reusable soap dispenser

- Recyclable paper cartons are switched out and replaced
- Reuse dispenser pump./cap combination and base
- Carton is flipped over and inserted into reusable base of packaging
  - Liquid collects in the center of the carton's gable top, allowing higher product evacuation
- Carton shape allows them to be stacked for storage

Innerbottle

Optimizing product evacuation

- Made from silicone materials (FDA food grade) that expand to a specific volume
- Silicone liner shrinks as product is used, reducing residue
- Bottle's outer shell remains clean
  - Enables recycling or reuse
  - Offer a variety of outer shell options, including paper
- When empty, the silicone Innerbottle is either recycled or incinerated and the bottle can be refilled with a new Innerbottle

Dove – Refillable Deodorant

Beauty Refillution Campaign

- Stainless steel reusable case designed to last for life
- Uses 54% less plastic in the deodorant refills than in a regular Dove stick pack
- Plastic used is 98% recycled

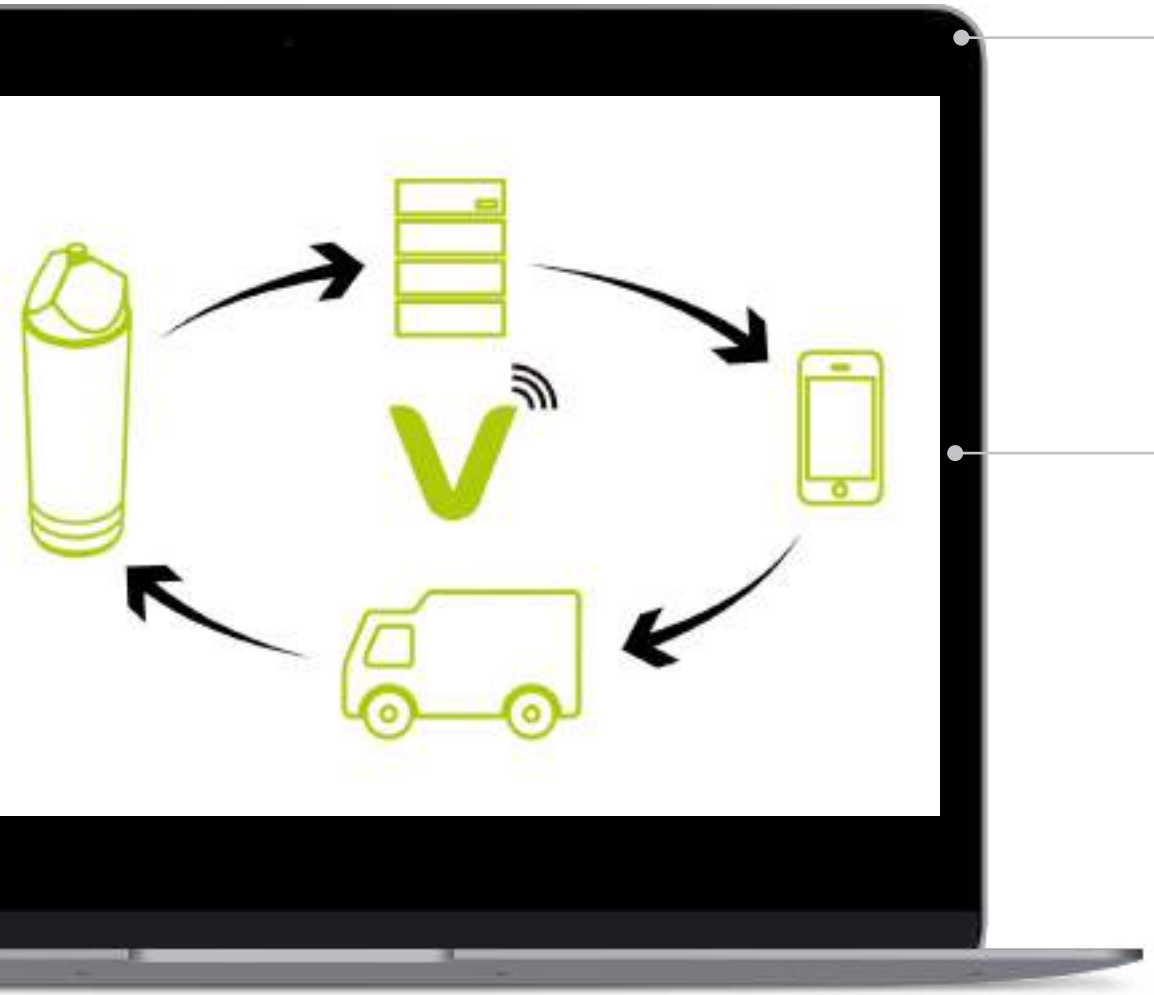
Pure Reuse/Refill Models

Pure Reuse/Refill Business Models

- For this project “pure” business models will represent any model where the packaging is the company's asset
- Durable packaging like glass and aluminum is used
  - Smart technologies are improving logistics and consumer experience
- Opportunity to collect and capitalize on consumer use data

Making Returnable Packaging Sexy (again)

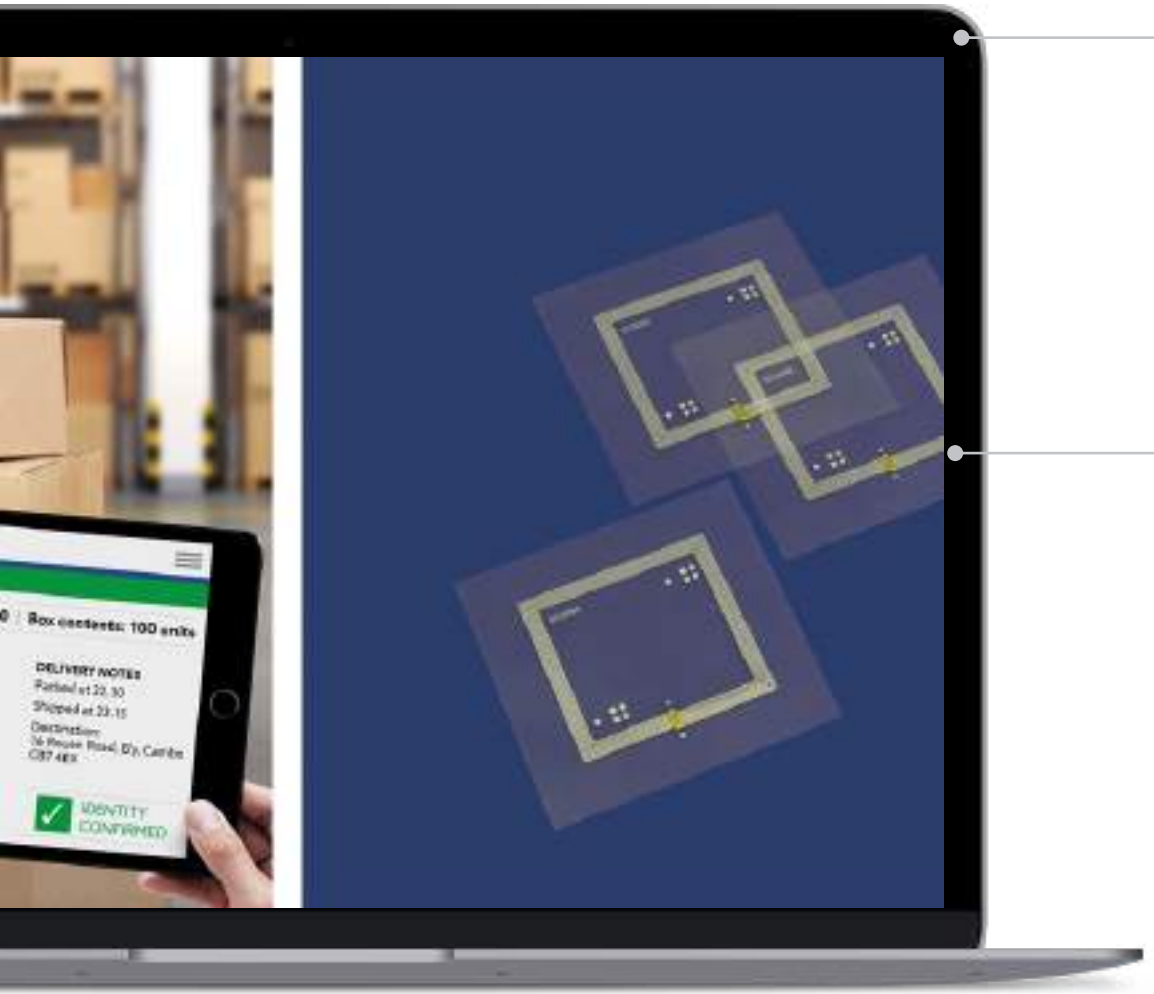
Vesta Smart Packaging



Enabling reusable packaging to thrive

- Smart containers know when they are empty and automatically reorder environmentally friendly refills
- Opportunity for manufacturers to observe the holdings and performance of their products in the homes and businesses they're being used in
- Who buys from you? How and when do they use your product? How much product will be needed next week? Do people use more when it's raining?

ConnectIC



Cheaper, lighter alternative to RFIDs and NFCs

- Low cost, flexible integrated circuit that can be embedded into paper or plastic for smart packaging applications
- Cost 89% less than RFID or NFC printing
- Weigh less than 0.1% of an RFID tag so they don't affect the recycling process

ConnectIC Follow Up

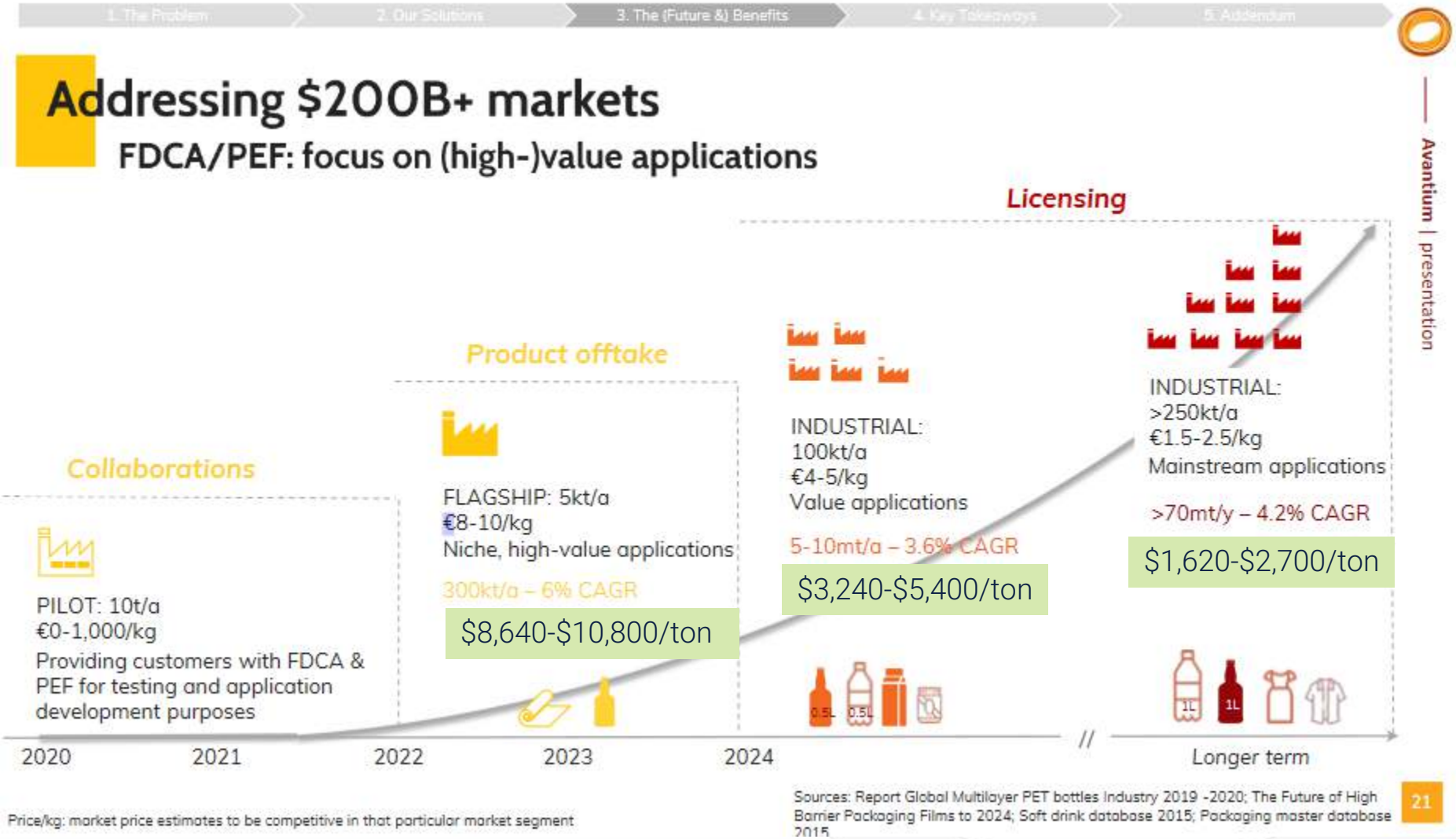
Is it commercialized?

- Working with Department for Environment, Food and Rural Affairs to deliver the UK's first comprehensive digital waste tracking solution
- Working with Innovate UK on SORT-IT project
  - Packaging will be given unique digital IDs to facilitate tracking and sorting of packaging at MRFs
- Done several pilots and are working with partners to scale up manufacturing

Reusable Packaging with PEF

- 100% biobased polymer produced from sugars derived from plants
- Shelf life improved vs. PET
  - Oxygen 8-10x
  - CO2 5-10x
  - Water 2-4x
- 100% recyclable
  - PEF can be sorted from other plastics and recycled to rPEF using the same steps as PET
- High temperature use
  - 12°C higher glass transition vs. PET
- Lightweight
  - 60% higher modulus vs. PET

Avantium PEF Cost Projections



Potential Reuse Model

- In store vending machine that dispenses tablets instead of liquids
  - Combine smart packaging technologies with Freestyle-type vending machine for Clorox products
- Refill on the go

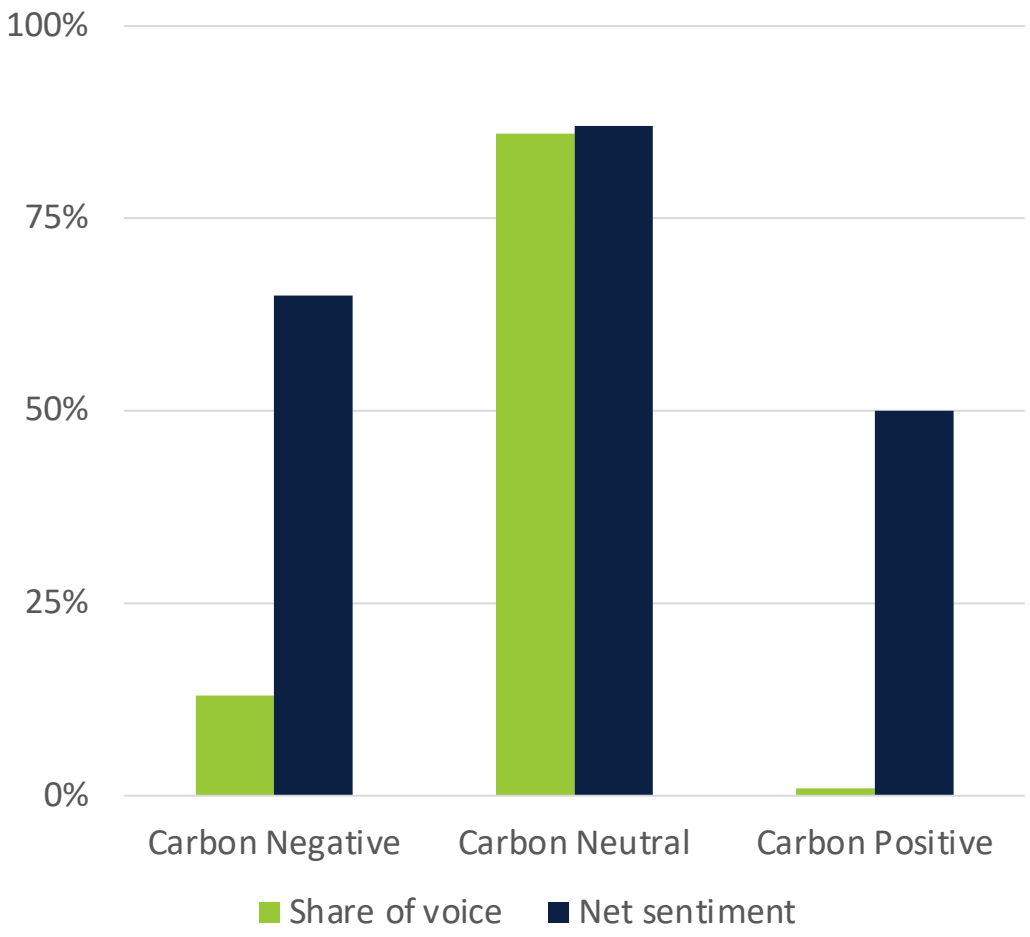
CLOROX

Bleach

Non-Bleach
- Lemon
- Lavender
- Unscented

Carbon Claims

Share of Voice & Sentiment x **Carbon Contribution**



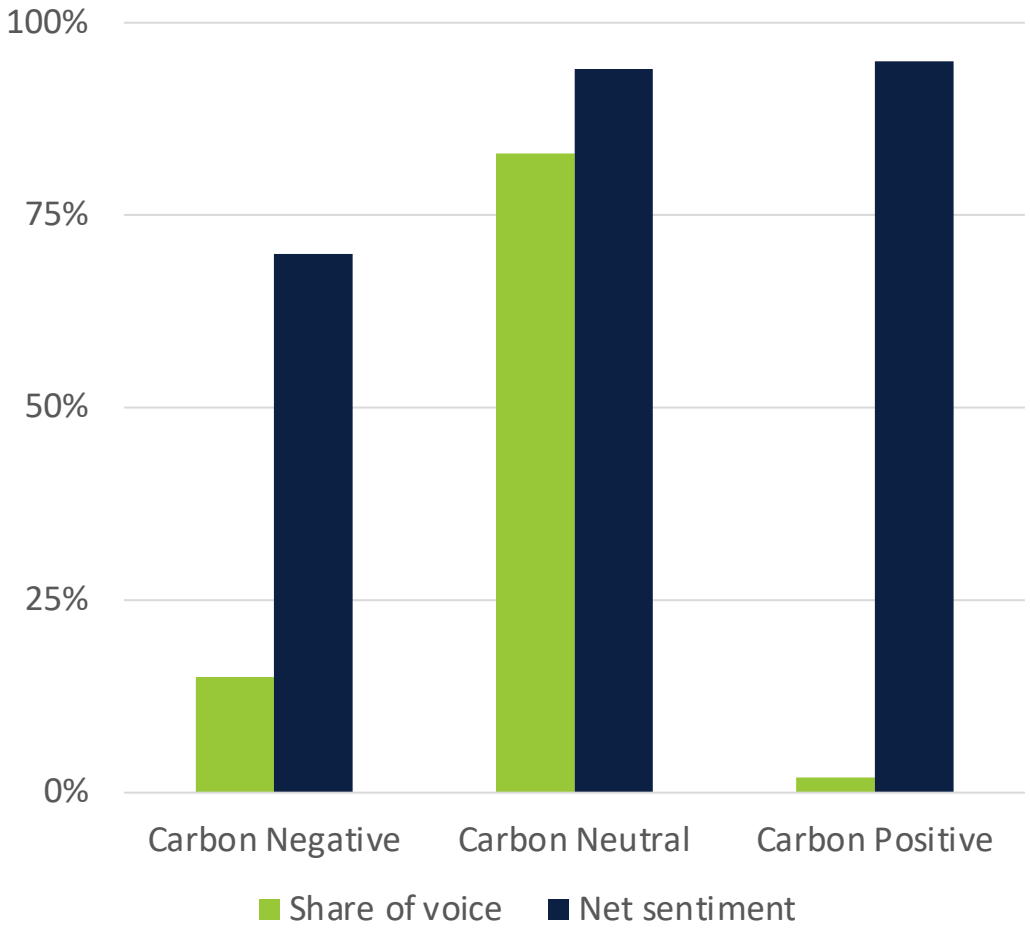
450K+

posts generating 54B+ impressions over the past 6 months in respect to the different carbon contributions

6x

more conversation around Carbon Neutral than Carbon Positive & Negative combined

Share of Voice & Sentiment x Carbon Contribution x **Packaging**



5K+

posts generating **120M+ impressions** over the past 6 months in respect to the different carbon contributions around packaging

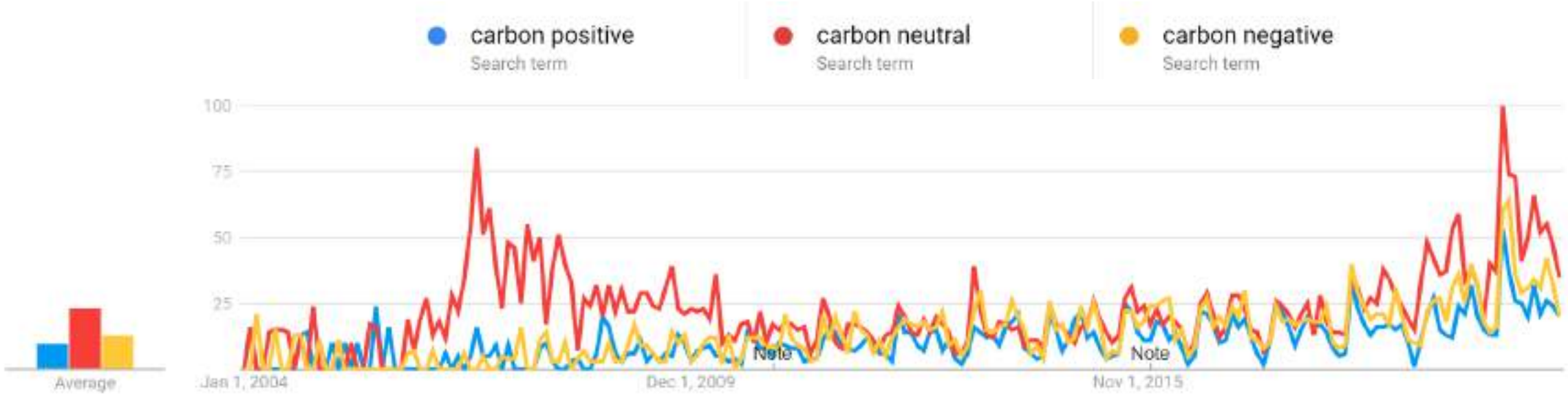
~1%

of all conversation around carbon claims are related to packaging

4.8x

more conversation around Carbon Neutral than Carbon Positive & Negative combined while sentiment is highest for Carbon Neutral and Carbon Positive

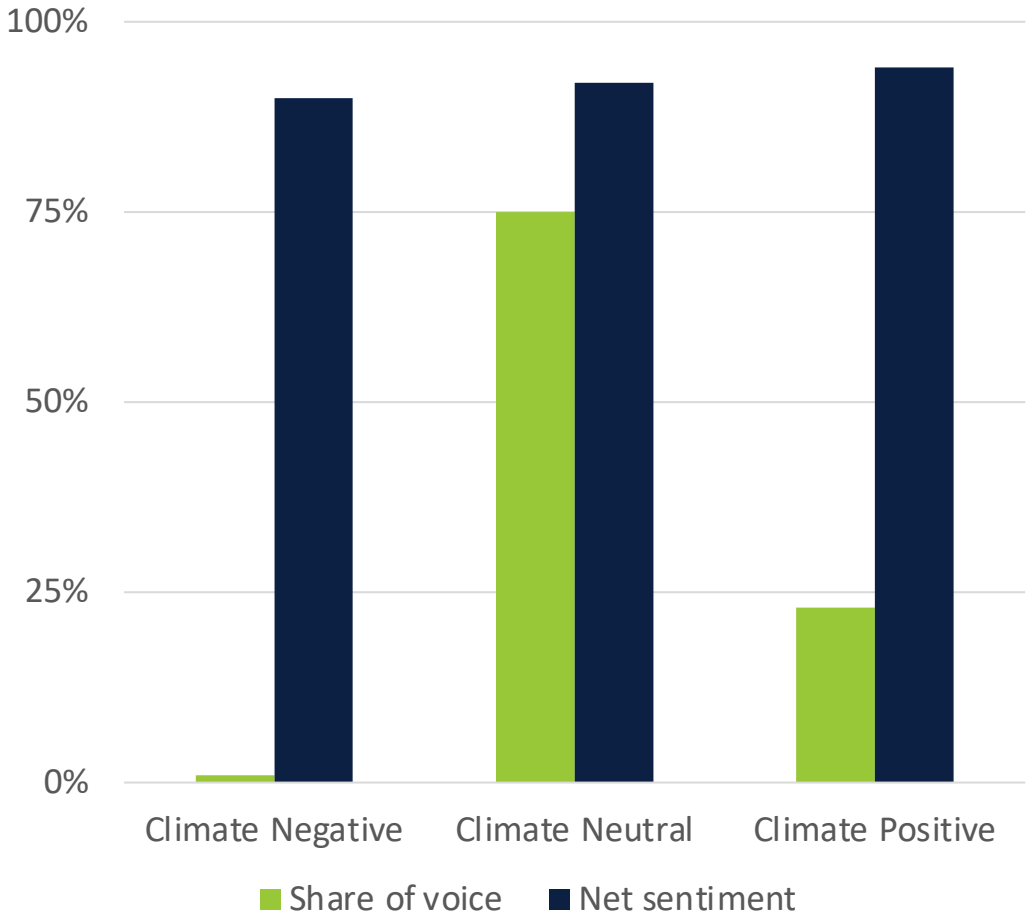
Google Search Data – Trends following Social Data



Interest over time

Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

Share of Voice & Sentiment x **Climate Claims**



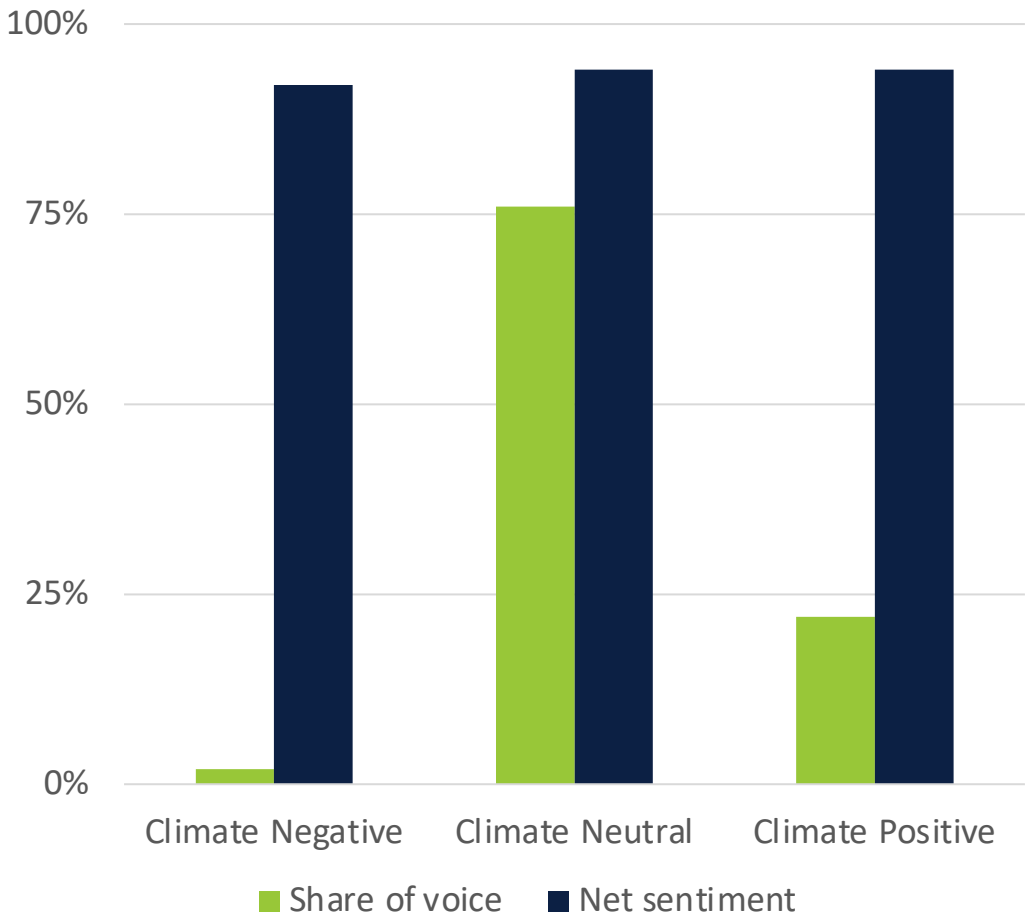
78K+

posts generating 6B+ impressions over the past 6 months in respect to the different climate claims

3x

more conversation around Climate Neutral than Climate Positive & Negative combined

Share of Voice & Sentiment x Climate Contribution x **Packaging**



1K+

posts generating 18M+ impressions over the past 6 months in respect to the different climate claims around packaging

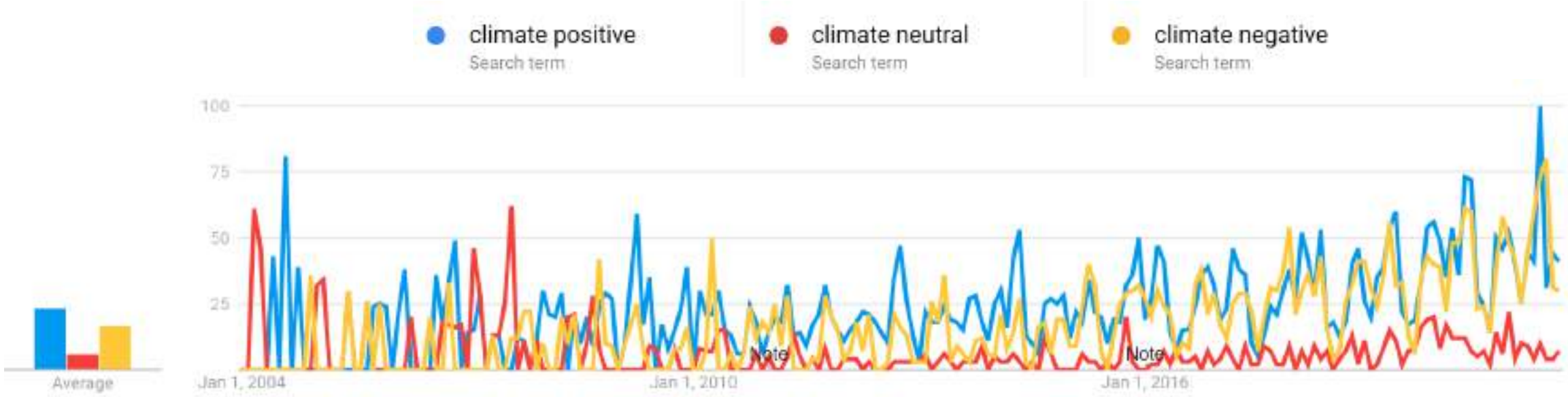
~1%

all conversation around climate claims are related to packaging

3.2x

more conversation around Climate Neutral than Climate Positive & Negative combined while sentiment is also slightly higher for Climate Neutral and Negative claims

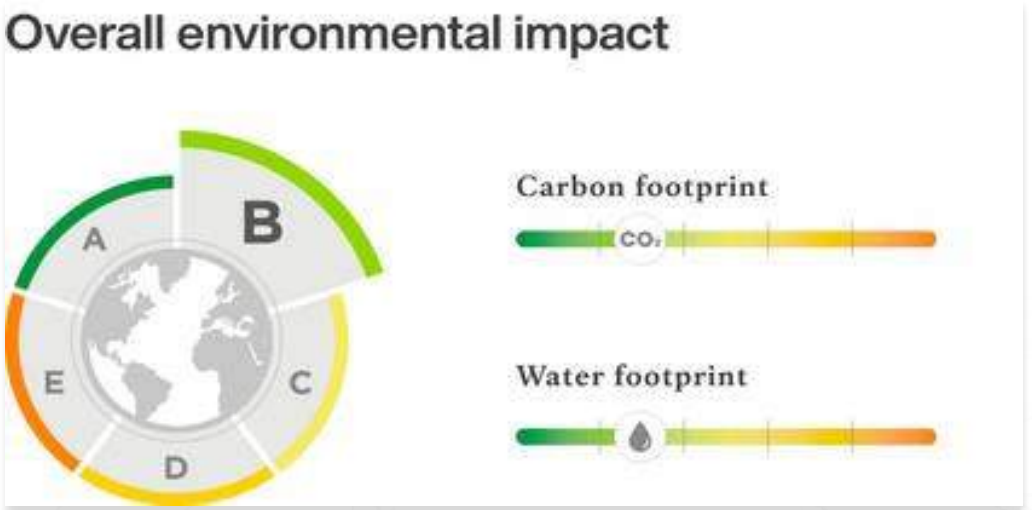
Google Search Data – Climate Positive & Negative Trending up

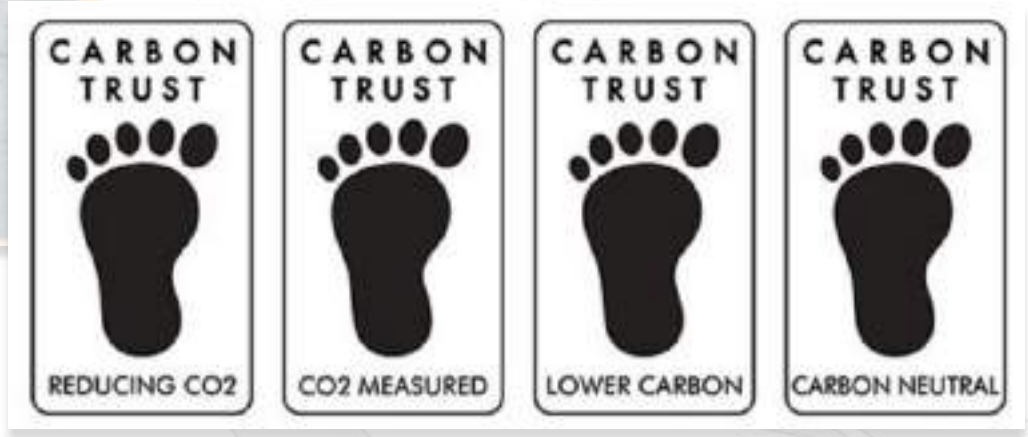


Interest over time

Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

Carbon Labeling Increasing

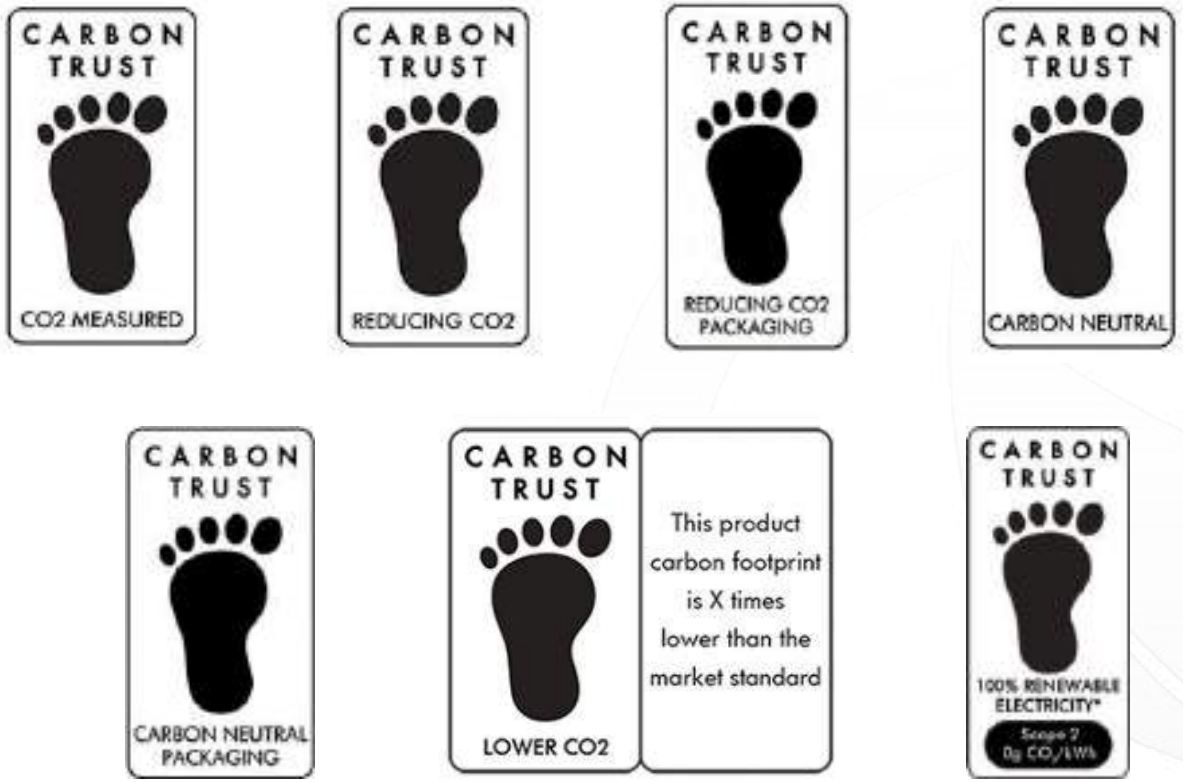




Carbon Claims

Carbon Trust

- Certifies carbon footprints and offers product labeling



In Depth:

Circular Models & Case Studies

10 Types of Innovation

Configuration

Offering

Experience

Profit Model	Network	Structure	Process	Product Performance	Product System	Service	Channel	Brand	Customer Engagement

Profit Model
The way in which you make money

For example, how **Netflix** turned the video rental industry on its head by implementing a subscription model

Network
Connections with others to create value

For example, how **Target** works with renowned external designers to differentiate itself

Structure
Alignment of your talent and assets

For example, how **Whole Foods** has built a robust feedback system for internal teams

Process
Signature or superior methods for doing your work

For example, how **Zara**'s "fast fashion" strategy moves its clothing from sketch to shelf in record time

Product Performance
Distinguishing features and functionality

For example, how **OXO Good Grips** cost a premium but it's "universal design" has a loyal following

Product System
Complementary products and services

For example, how **Nike+** parlayed shoes, sensors, apps and devices into a sport lifestyle suite

Service
Support and enhancements that surroundings your offerings

For example, how "Deliver WOW through service" is **Zappos**' #1 internal core value

Channel
How your offerings are delivered to customers and users

For example, how **Nespresso** locks in customers with its useful members only club

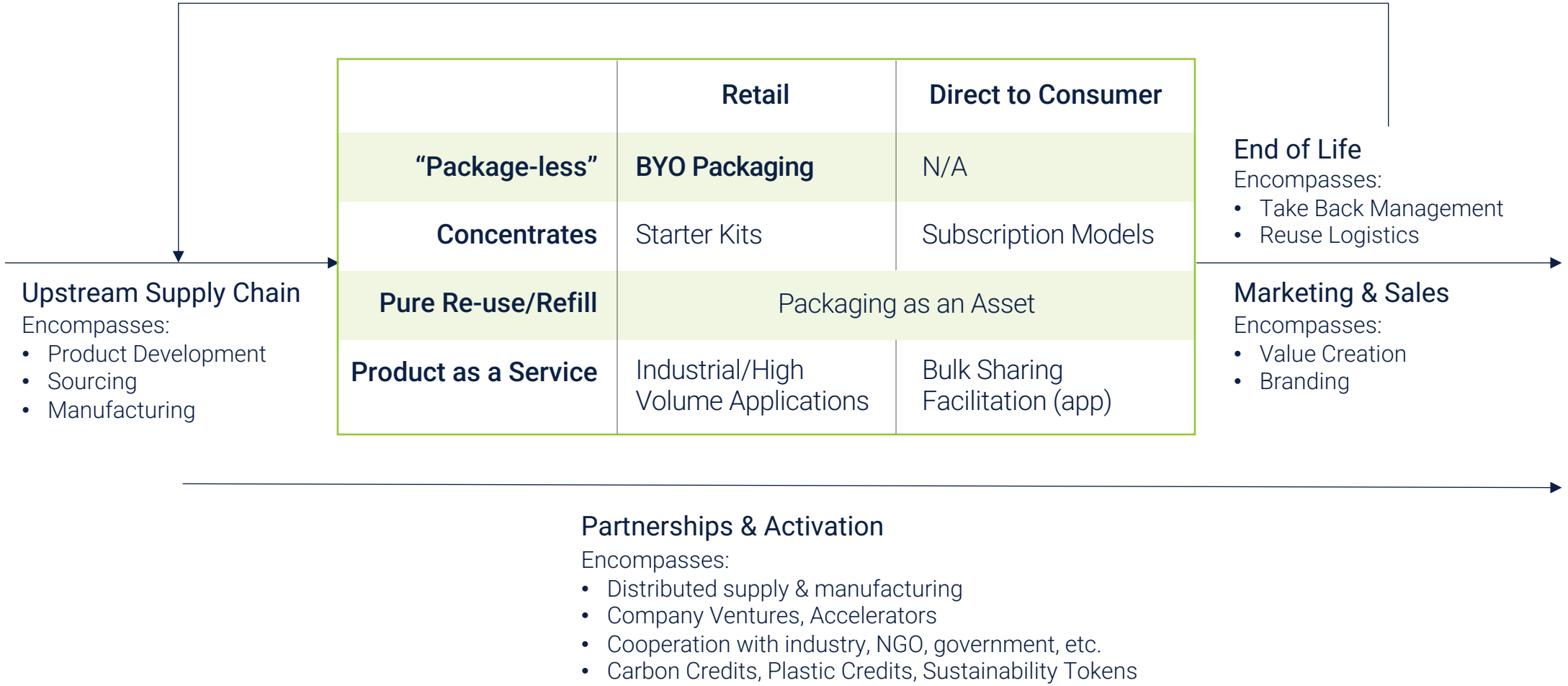
Brand
Representation of your offerings and business

For example, how **Virgin** extends its brand into sectors ranging from soft drinks to space travel

Customer Engagement
Distinctive interactions you foster

For example, how **Wii**'s experience drove more from the interactions in the room than on-screen

Clorox Sustainable Business Model Innovations – Classification



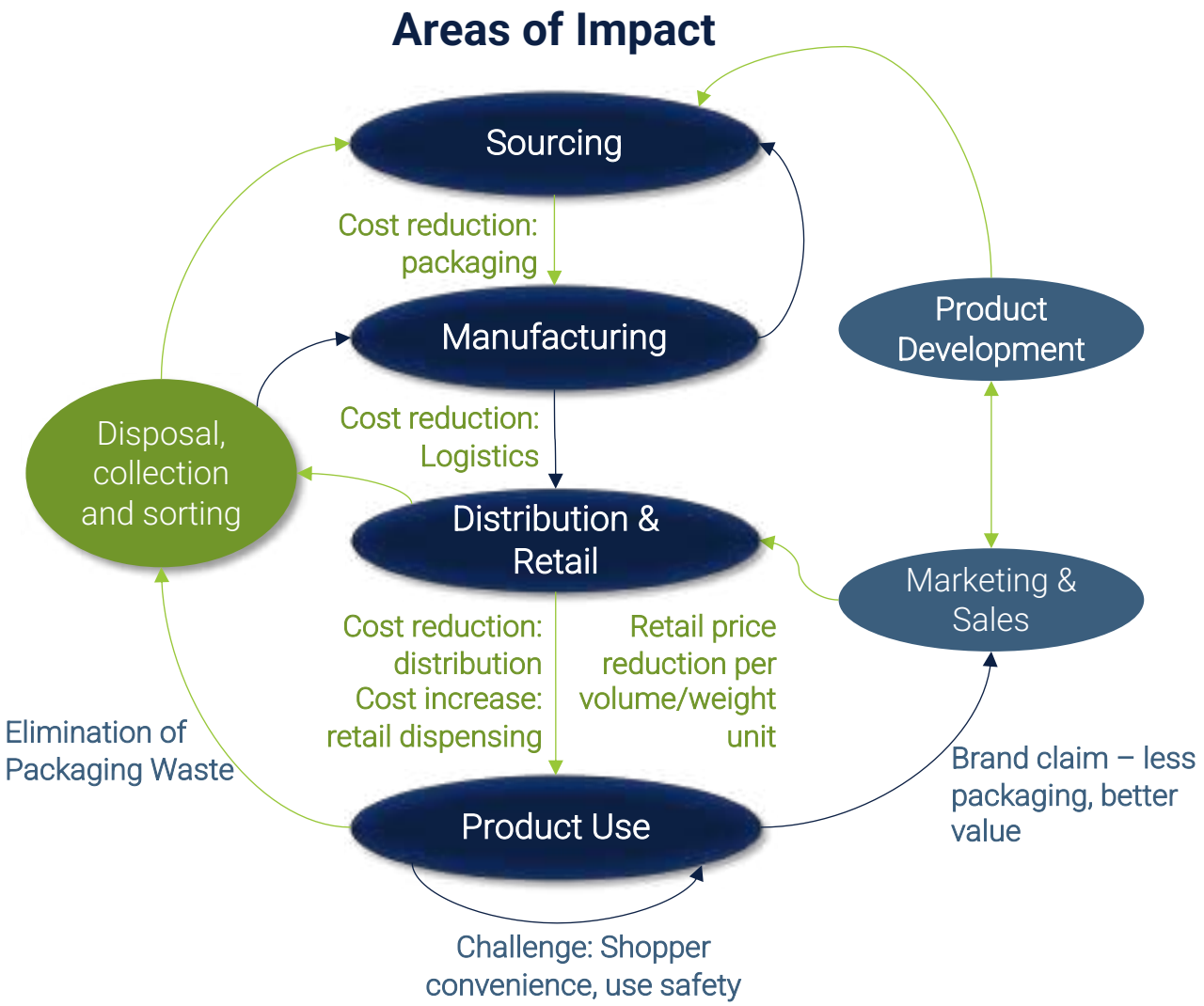
BYO Packaging Definition and Impact Areas

Definition

- Requires the consumer to carry final-use packaging to retail or wholesale locations
- Retail carries bulk packaging and/or dispensing systems

Examples

- Example 1: Siklus
- Example 2: original unverpackt



Siklus – Refill on the Go

Refilling Products in Customer-Provided Packaging

Siklus eliminates the “poverty tax” created when low-income households buy smaller product sizes and end up paying a disproportionate amount on packaging.

Customers can bring their own containers to the mobile Siklus stations and restock on their favorite products. There is also a mobile app that helps customers order products. The mobile refill stations move to meet the demand of the customers.

Network

Partner with other providers to bring Clorox products to these types of solutions

Service

Delivery of product to neighborhoods via mobile carts

Channel

Using an app to determine where demand is

Unverpackt – Waste Free Store

Entire store devoted to customer-provided packaging

Stores like Unverpackt are the weight of customer's jars/packaging upon entry and offer dispensing of products in bulk. Many of these stores focus on organic, fair trade, etc. products

Opportunity: Burt's Bees refills

Network

Increase partnerships with new retailers

Channel

Providing new way for consumers to connect with products

Brand

Convey brand's commitment to sustainability

BYO Packaging: Consumer or Retailer Provided Packaging

	✓ Opportunities	✗ Barriers
Consumer	• Purchase amount of product required • **Price point/value leverage (experience, environmental impact, etc.)**	• **Inconvenience of bringing own packaging**
Commercial	• Ability to have mobile/stationary refill stations • New commercial partners	• **Dispensing machines require space in retail stores, maintenance and servicing** • Protecting quality of the product
Operations & Logistics	• Deliver concentrated product for machine dispensing	• Change management and operations retraining
Financial	• Reduced transportation costs • Cost savings from reduced packaging	• **Manufacturing equipment CAPEX**
Environmental	• **Reduction in packaging/CO2 footprint** • Stakeholder Engagement / PR-ability	• Emissions associated with mobile dispensing station
Social	• Increased access to Clorox products	• Breaking existing brand loyalty

Applicability for Clorox

Optimal Conditions for BYO Packaging to Work

- ↑ High packaging and logistic costs
- ↑ High population density market
- ↓ Low waste infrastructure market
- ↑ High barrier for reverse logistics

- Partnering with Zero-Waste retailer

Relevant, explore options

CLOROX

Hidden Valley

Potentially relevant

BURT'S BEES
TRUE TO NATURE

Fresh Step

Irrelevant

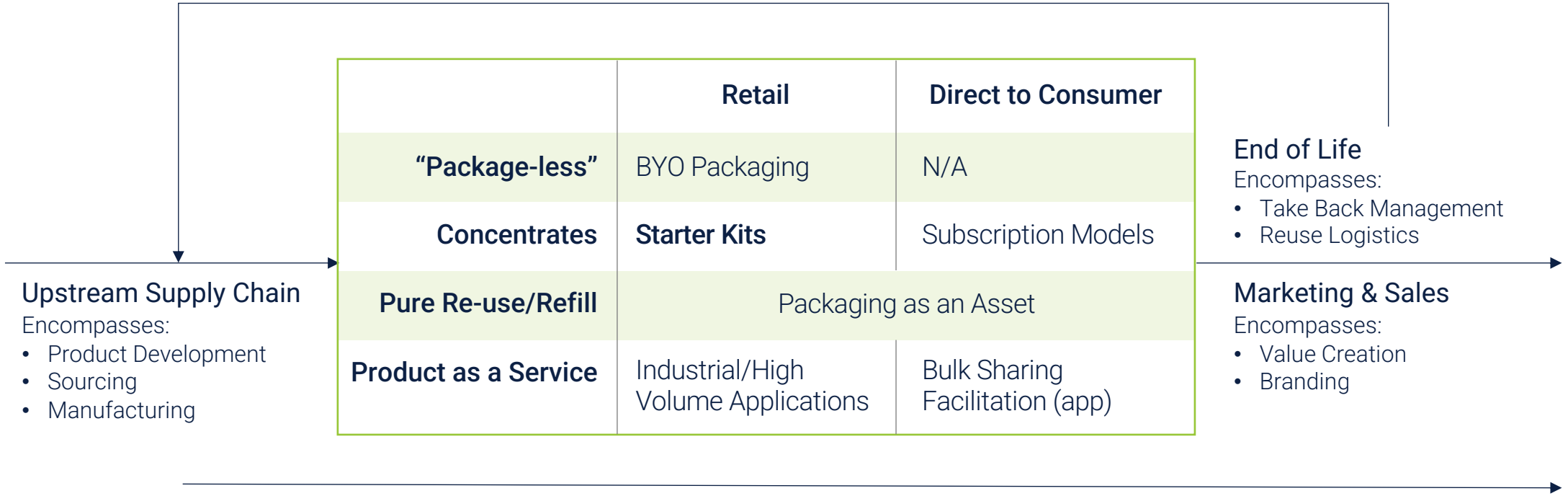
BRITA

GLAD

KINGSFORD

NEOCELL

Clorox Sustainable Business Model Innovations – Classification



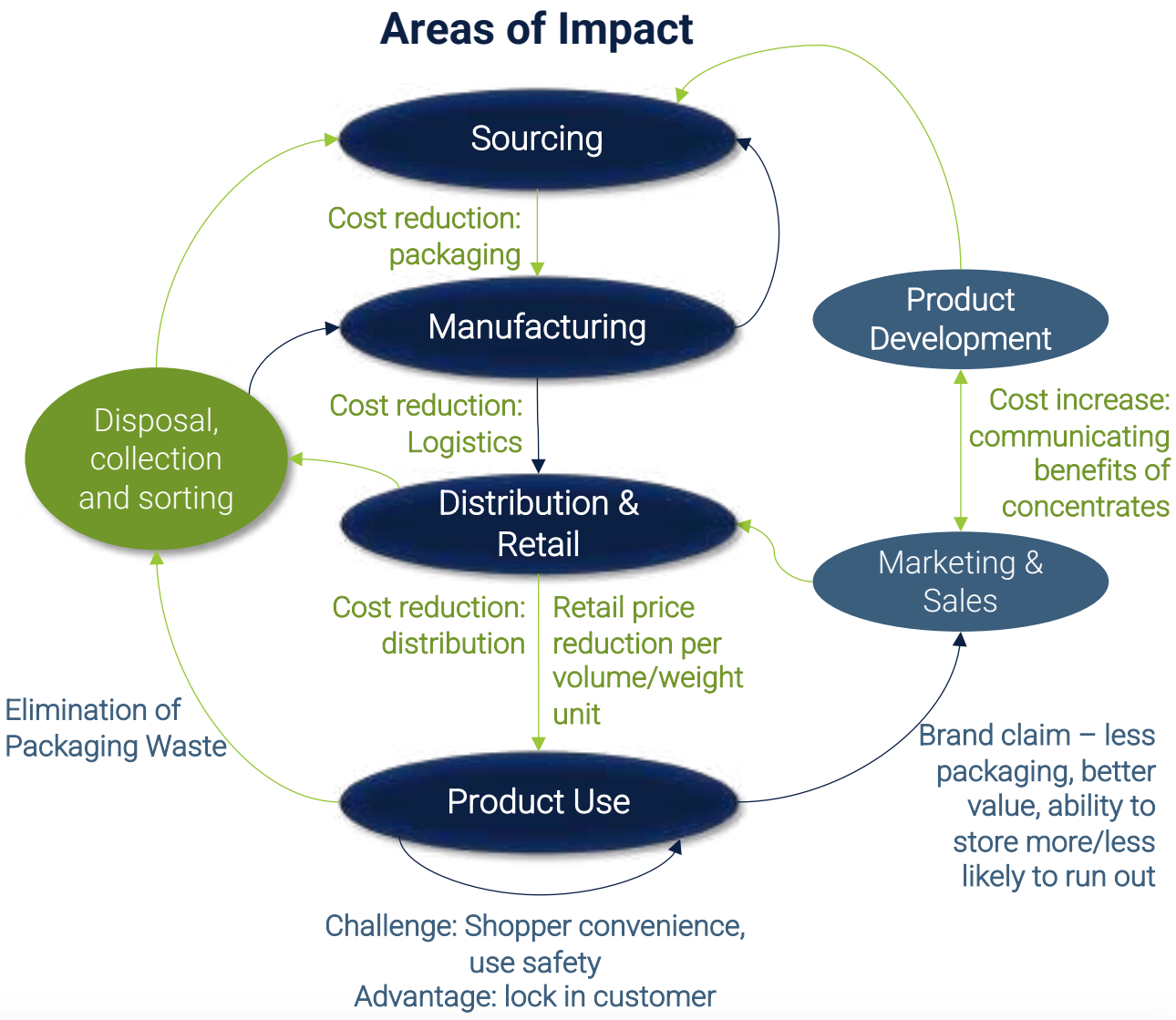
Starter Kit Definition and Impact Areas

Definition

- Company offers initial packaging that will be reused & refilled with concentrated product (liquid, tablet, powder, etc.)
- Everything purchased in-store

Examples

- Example 1: Windex
- Example 2: Softsoap



Case Study: Windex/SC Johnson

- Started with non-concentrated refills (2L bottles)
- In 2020, started partnership with Plastic Bank
  - Plant to recycle 1400 metric tons of ocean bound plastic for new Windex Bottles
  - "Help Seas Sparkle"
- Sell a 2.9 fl oz. Concentrate refill for Windex, Scrubbing Bubbles, and Fantastik
- Refill bottle made from 100% recycled plastics
  - Customers pour 3 cups of water into spray bottle
  - Empty concentrate into bottle
  - Attach trigger, shake, and apply label to bottle

Case Study: Windex/SC Johnson

Brand

Building upon the sustainability image of SC Johnson

Watchouts:

- Isn't highly promoted on company website, for what reason?
  - Product appears to be relatively new
- Need to convey that same cleaning power is provided in smaller packaging

$5.94 for 67.6 oz
$0.09/oz

$15.96 for 128 oz refill
& 32 oz spray bottle
$0.10/oz

$11.67 for spray bottle
and 2 refills
$0.22/oz

Softsoap (Colgate-Palmolive)

Brand

Building upon the sustainability image of Softsoap

Watchouts:

- Need to convey that same cleaning power is provided in smaller packaging

$0.98/7.5 oz
$0.13/oz

$4.70/50 fluid oz
$0.094/oz

Starter Kit (bottle & 2 tabs): $5.98
3 tablets/$4.98
$0.21/oz

Concentrates: Starter Kits

	Opportunities	Barriers
Consumer	• Environmentally conscious consumer segment • **Bulk purchase/space saving value proposition**	• **Inconvenience & lack of confidence in efficacy** • Usage education barrier
Commercial	• Enhanced retail transaction size and margin • Lower operating costs at retail	• **Retail category space losses OR new equipment requirements**
Operations & Logistics	• Production and distribution efficiencies	• Change management and operations retraining
Financial	• Reduced transportation costs • Cost savings from reduced packaging • **Recurring revenue potential**	• **Manufacturing equipment CAPEX**
Environmental	• **Reduction in packaging/CO2 footprint/water usage** • Stakeholder Engagement / PR-ability	• Waste and GHG Footprint of new packaging format • Usage Safety
Social	• No change	• No change

Applicability for Clorox

Optimal Conditions for Starter Kits to Work

- ↑ High packaging costs
- ↑ High barrier for reverse logistics
- ↓ Low-medium population density market
- ↓ Low change management for retail
- ↓ Low usage change for consumers

- Products with high water content

Relevant, explore scale up opportunities

Hidden Valley

Relevant, explore options

CLOROX

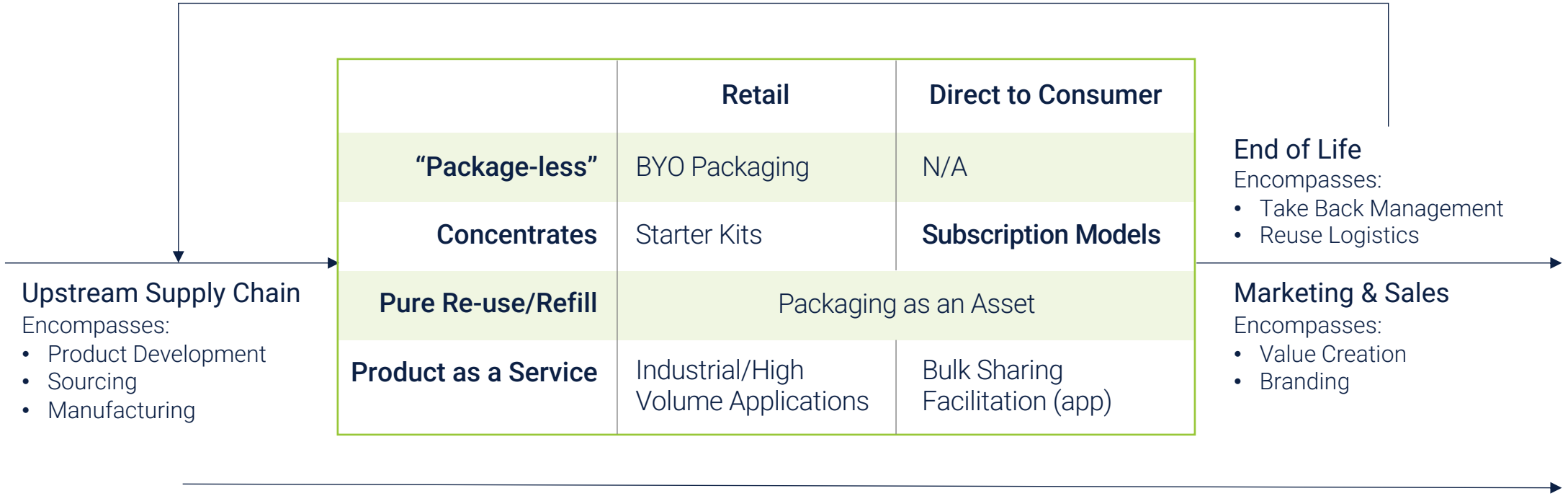
Potentially relevant

BURT'S BEES
TRUE TO NATURE

Irrelevant

BRITA GLAD Fresh Step
NEOCELL KINGSFORD

Clorox Sustainable Business Model Innovations – Classification



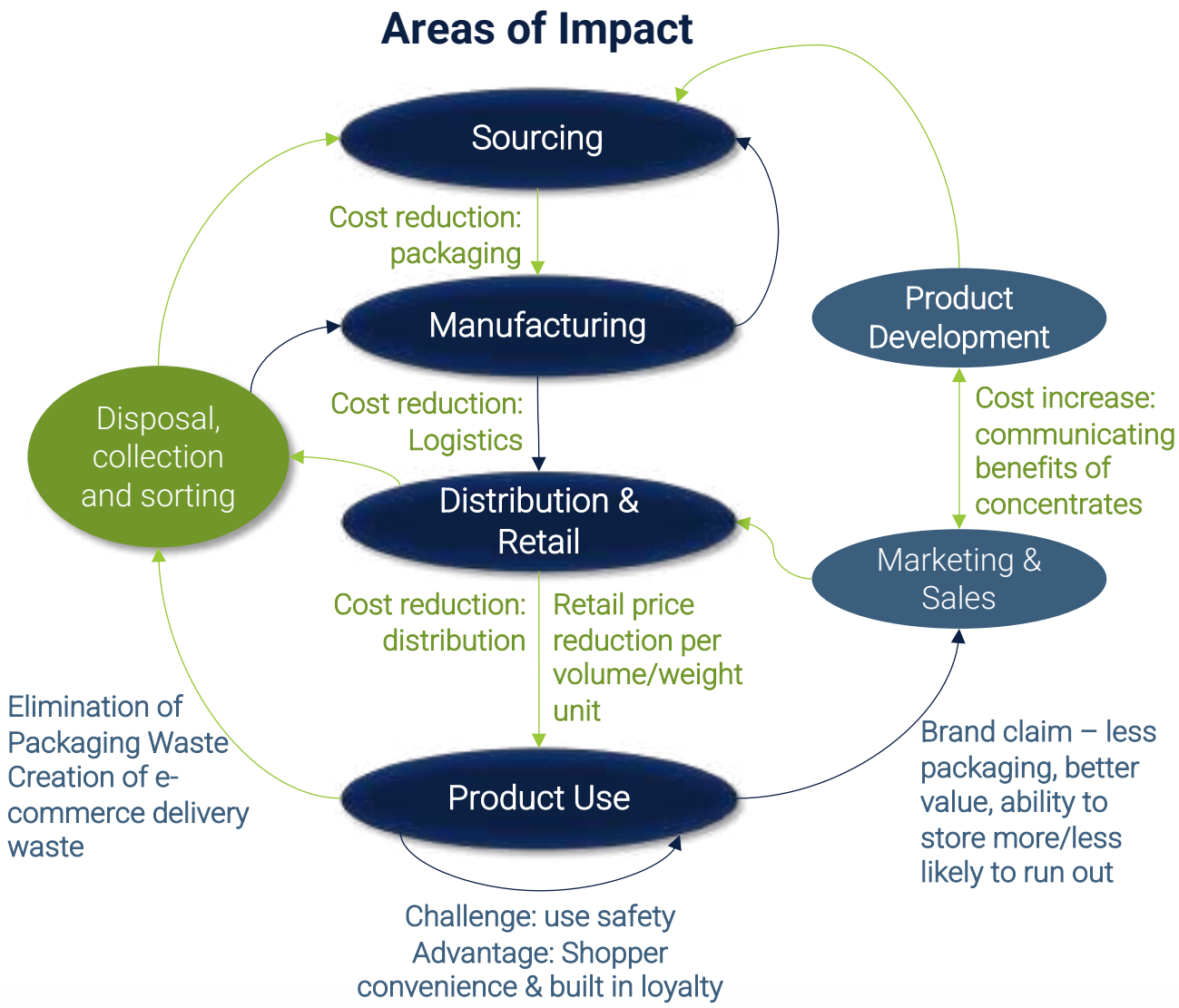
Subscription Models Definition and Impact Areas

Definition

- Company offers initial packaging that will be reused & refilled with concentrated product (liquid, tablet, powder, etc.)
- Everything purchased online via subscription service or membership

Examples

- Example 1: Pricing Models



Case Study: Pricing

Blueland

Hand Soap Starter: 1 bottle & 3 tablets: $16

3 pack refill: $6

Subscribe for refills every 1, 2, 3, or 4 months to save 10%

Bite

4-month supply $30 (38% savings vs. one month supply)

Subsequent refills are sent in compostable packaging

Must do subscription but can opt out whenever

Cleancult

All Purpose Cleaner Refill for $6.99

Membership automatically ships refills every 1, 2, 3, or 4 months

Case Study: Pricing

Dazz

4 tablets each of Window & Glass Cleaner, Bathroom Cleaner, All Purpose Cleaner, and Hand Soap for $22

Save 5% with subscription

Subscription options for every 1, 2, 3, or 6 months

EC30

Body wash supply for 30 uses $19

Delivery every 1, 2 or 3 months saves 10%

Plain Products

16oz Shampoo for $30

Save 10% with subscription every 2, 3, 4, or 6 months

Return empty bottles in packaging when you receive new bottles

Subscription Services

Profit Model

Shift from traditional retail purchasing to subscription/ membership model

Channel

Offering products via subscription service & online direct to consumer

- Biggest challenges:
  - Getting consumers to commit to subscription service
  - High price tag for a product they haven't used before
- Opportunity for Clorox:
  - Established brand loyalty
  - If customers trust the Clorox brand, may be less hesitant to commit to a tablet, concentrate, powder, etc.

Subscription Models

	Opportunities	Barriers
Consumer	• Environmentally conscious consumer segment • Bulk purchase value proposition • **Convenience of subscription services**	• Lack of confidence in efficacy • Usage education barrier • **Hesitancy to high initial price/commitment or high attrition**
Commercial	• **Direct to consumer sales**	• **Retail category space losses (conflict with existing clients)**
Operations & Logistics	• Production and distribution efficiencies	• **Change management and operations retraining**
Financial	• Reduced transportation costs • Cost savings from reduced packaging • **Predictable recurring revenue**	• Manufacturing equipment CAPEX
Environmental	• Reduction in packaging/CO2 footprint/water usage • Stakeholder Engagement / PR-ability	• **Waste and GHG Footprint of new packaging format/e-commerce** • Usage Safety
Social	• Offers refill format for those in rural areas	• No change

Applicability for Clorox

Optimal Conditions for Subscription Models to Work

- ↑ High packaging costs
- ↑ High barrier for reverse logistics
- ↓ Low population density market
- ↓ Low change management for retail
- ↑ High brand loyalty customers
- ↑ High water content products

- Products with predictable usage patterns

Relevant, explore options

CLOROX

Potentially relevant, promote takeback with new deliveries

BRITA NEOCELL Fresh Step

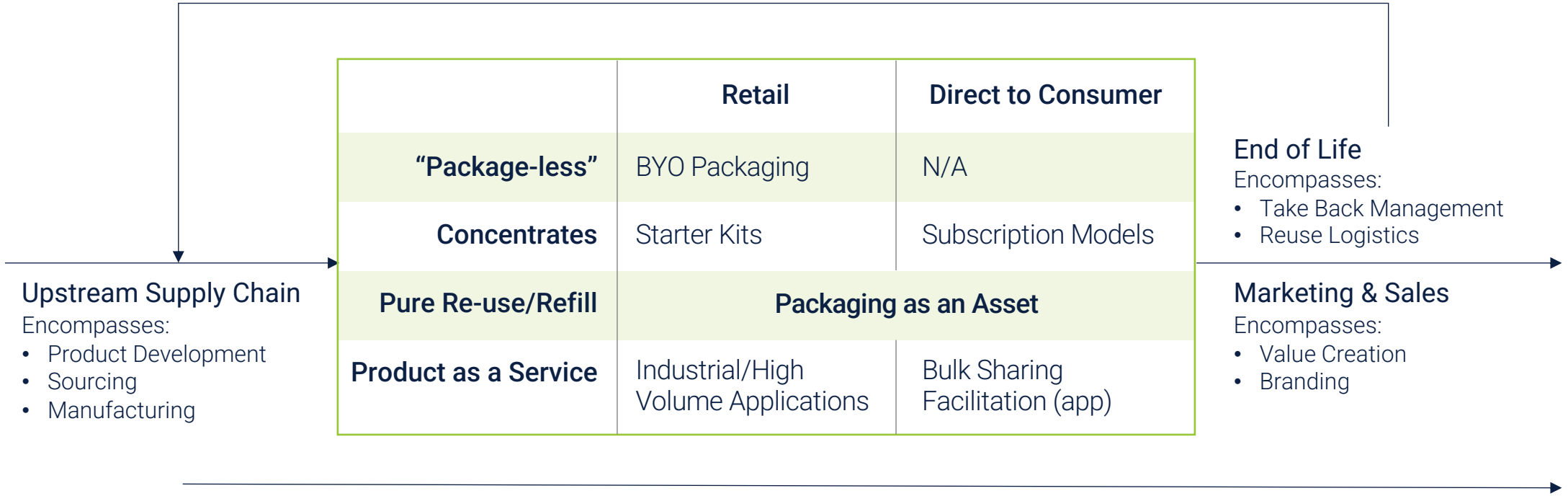
Potentially relevant

BURT'S BEES TRUE TO NATURE Hidden Valley

Irrelevant

KINGSFORD GLAD

Clorox Sustainable Business Model Innovations – Classification



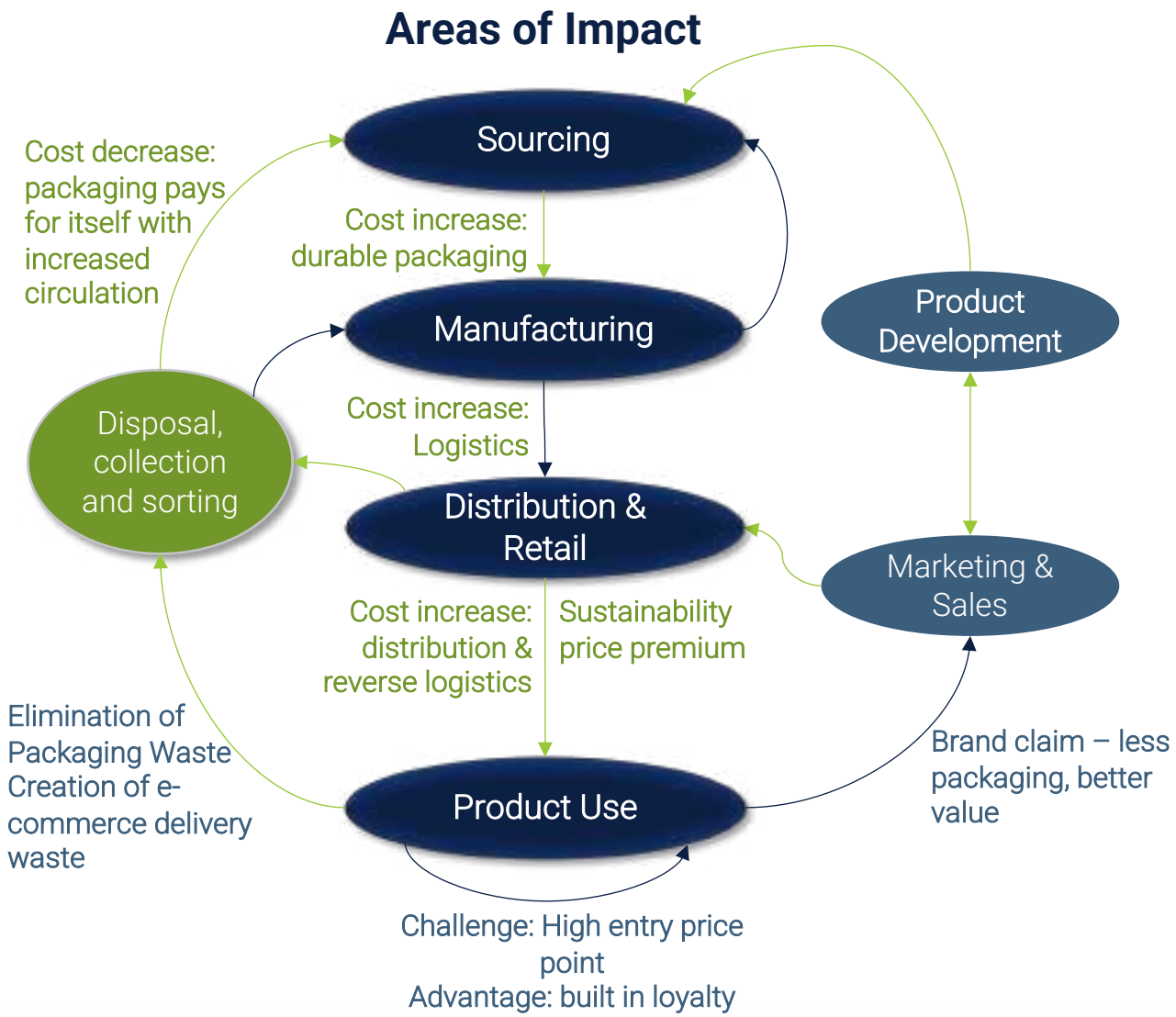
Packaging as an Asset Definition and Impact Areas

Definition

- Company owns durable packaging that is reused
- Reuse can occur at home or on the go

Examples

- Example 1: Loop
- Example 2: ACE OF AIR

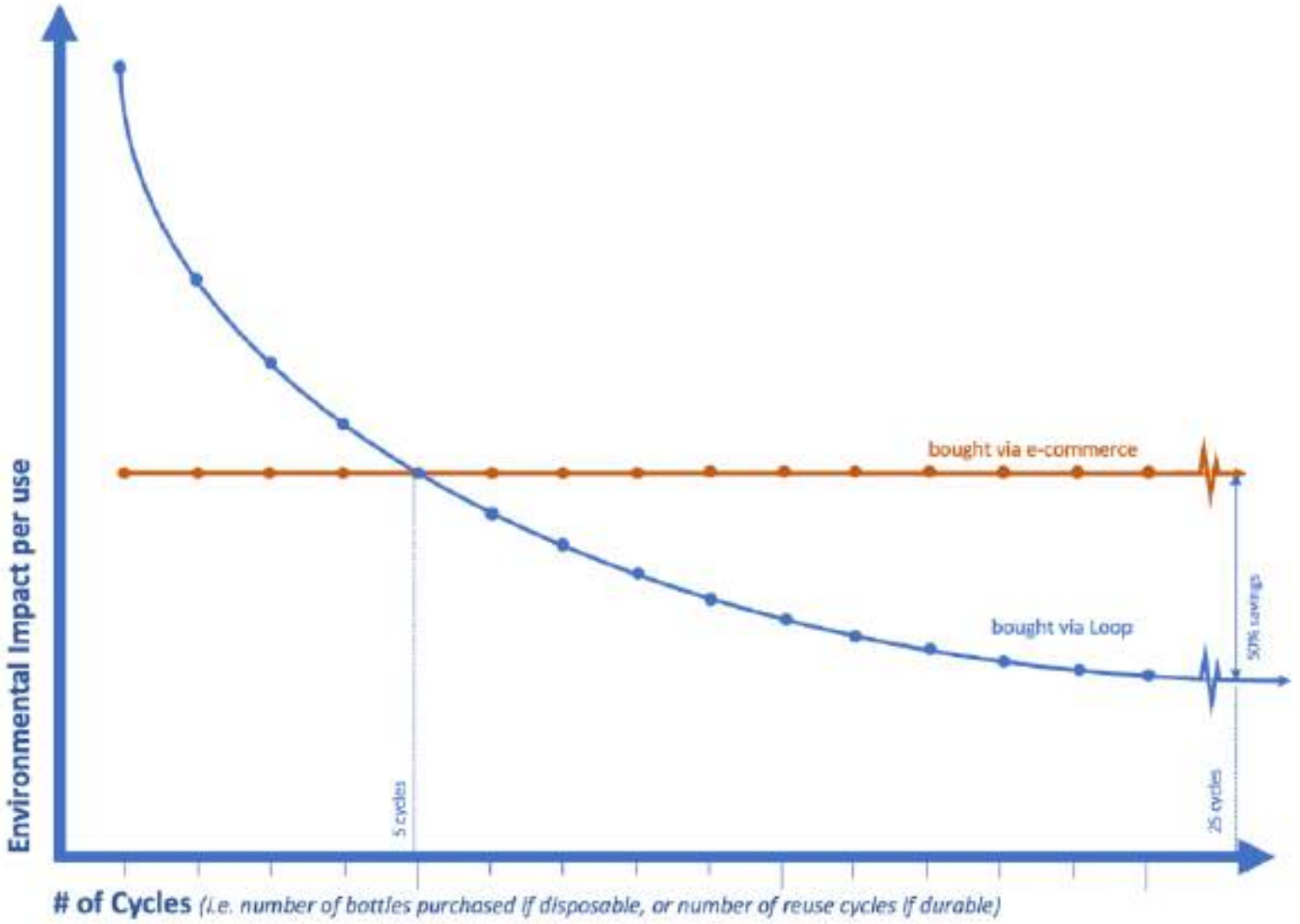


Loop

Network	Process
Channel	Brand

- Durable containers that last at least ten use cycles, including a full journey through production, shipping, use, and cleaning.
- Empty packaging is returned via mail or in-store. Customer automatically receives their refundable deposit as a deposit balance in their account that can be applied to their next order.
- Every Loop product has an end-of-life solution in partnership with TerraCycle.
- Partnership with Kroger for in-store drop off options

Loop LCA


Environmental Impact per use
bought via e-commerce
bought via Loop
50% savings
5 cycles
25 cycles
# of Cycles (i.e. number of bottles purchased if disposable, or number of reuse cycles if durable)

Ace of Air

Channel	Brand
Profit Model	Customer Engagement

Beauty & Supplement company that utilizes reusable and refillable packaging

- Rental fee for each product package is $2 and $3 for the Boomerang Box shipper
- Ace of Air owns the packaging. If consumers decide to keep it, they are charged a replacement fee of $25/product package & $20 for Boomerang Box
- Boomerang Boxes are due within 30 days of receiving an order and empty product packaging is due within 6 months of receiving your order
- Customers earn loyalty points which they can use to donate to charities

Packaging as an Asset Models

	Opportunities	Barriers
Consumer	• Environmentally conscious consumer segment • **Create differentiation via unique packaging functionality**	• **Hesitancy to pay upfront deposit charges on packaging/high price associated with packaging**
Commercial	• Ability to sell direct to consumer or leverage retail partnerships	• **Price difference between reusable vs. single use products**
Operations & Logistics	• Production and distribution efficiencies	• **Must create reverse logistics & sanitation facilities**
Financial	• Higher margins on products with higher packaging circulation	• **High upfront cost of durable packaging** • Cost associated with reverse logistics & sanitation
Environmental	• Reduction in single use packaging • Stakeholder Engagement / PR-ability	• LCA required to determine carbon & water benefits
Social	• No change	• High upfront cost may be prohibitively expensive for some consumers

Applicability for Clorox

Optimal Conditions for Packaging as an Asset to Work

- High population density market
- Low barrier for reverse logistics
- High brand loyalty customers

- Market in which EPR legislation is imminent

Relevant, already piloting

CLOROX

Hidden Valley

Relevant, explore options

BURT'S BEES
TRUE TO NATURE

Potentially relevant

NEOCELL

Fresh Step

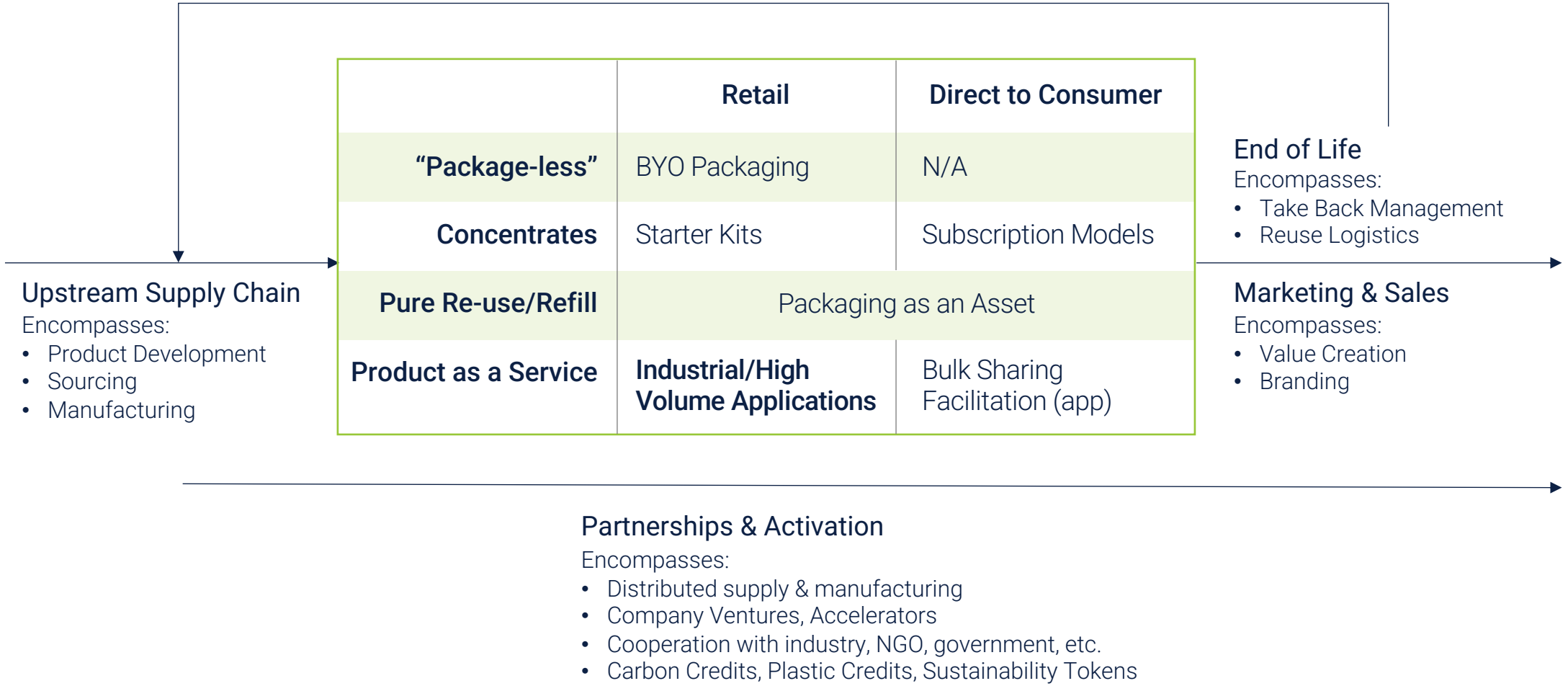
Irrelevant

BRITA

GLAD

KINGSFORD

Clorox Sustainable Business Model Innovations – Classification



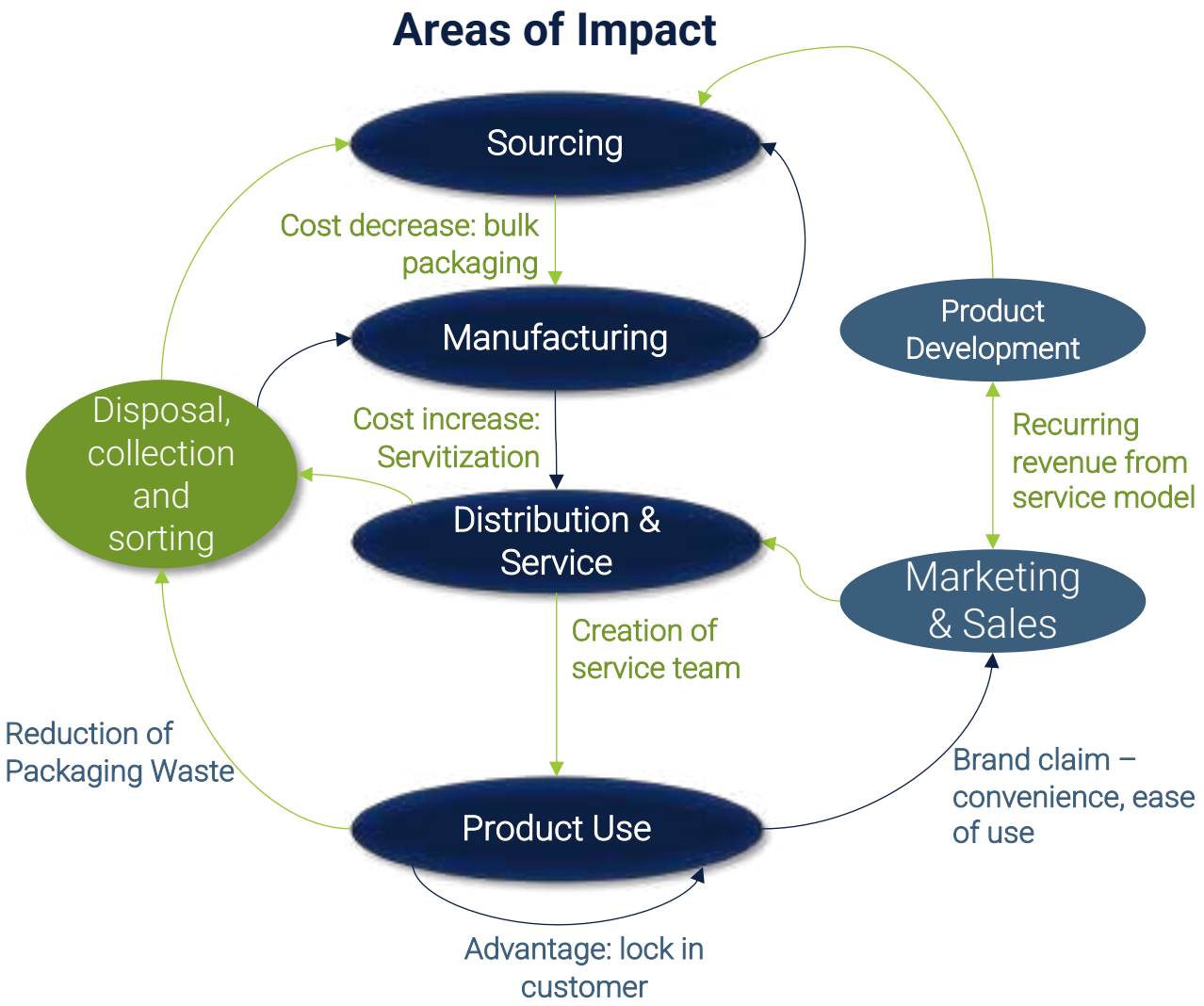
Industrial/High Volume Applications Definition and Impact Areas

Definition

- Services are sold to high volume users as opposed to selling products

Examples

- Example 1: Chemical Leasing
- Example 2: EverGreen Lease



Product to Service

Profit Model	Product System	Service

Complease Chemical Leasing System

- Parts cleaning service instead of selling the cleaning chemicals directly
- Reduces solvent consumption by 93%
- Reduces time spend calculating solvent requirements, taking care of waste management, etc.

Interface EverGreen Lease

Profit Model

Service

Carpet leasing program that allows schools to pay for carpet on a monthly basis

- At end of life, Interface takes back the carpet and recycles it
- Lease appears to be offered in Australia, but no longer in the US
  - Low adoption
  - Resistance toward ownerless consumption

Product as a Service – High Use/Industrial Application Models

	Opportunities	Barriers
Consumer	• Lower upfront costs • Fewer end-of-life costs as company owns the product/machinery/etc.	• Potentially higher lifetime costs • Perceived value of producer owned assets
Commercial	• Ability to upsell services on top of product margins while creating recurring revenue	• Finding clients willing to sign long-term leases. New sales model.
Operations & Logistics	• Ability to forecast demand	• **Must increase sales/service offerings and build service infrastructure**
Financial	• Consumer locked into long-term contracts • **Higher lifetime revenues and margins**	• Payments over lifetime of contract instead of upfront
Environmental	• **Ownership of end-of-life disposal (control over reverse logistics, if needed)** • **Bulk sales reduces packaging**	• No change
Social	• N/A	• N/A

Applicability for Clorox

Optimal Conditions for Product as a Service - High Volume to Work

- High population density market
- Low barrier for reverse logistics
- High brand loyalty customers

- Market in which EPR legislation is imminent
- Products with applications/uses which are typically outsourced by businesses

Relevant, explore options

CLOROX

Potentially Irrelevant

BRITA

Irrelevant

Hidden Valley, BURT'S BEES TRUE TO NATURE, Fresh Step, GLAD, KINGSFORD, NEOCELL

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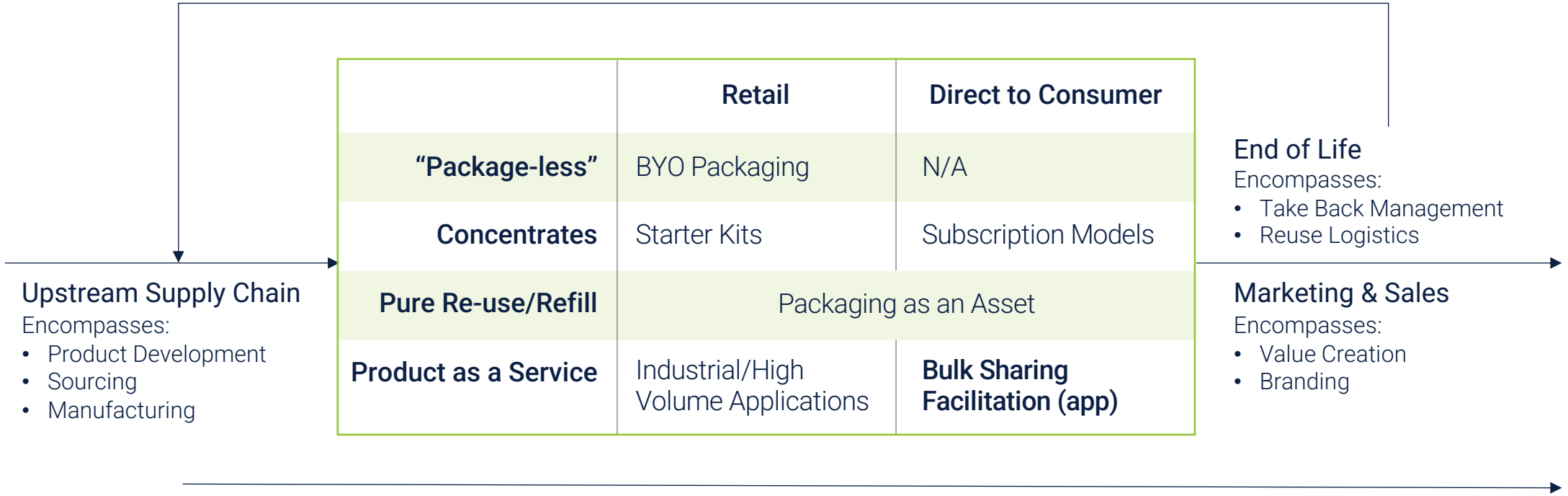


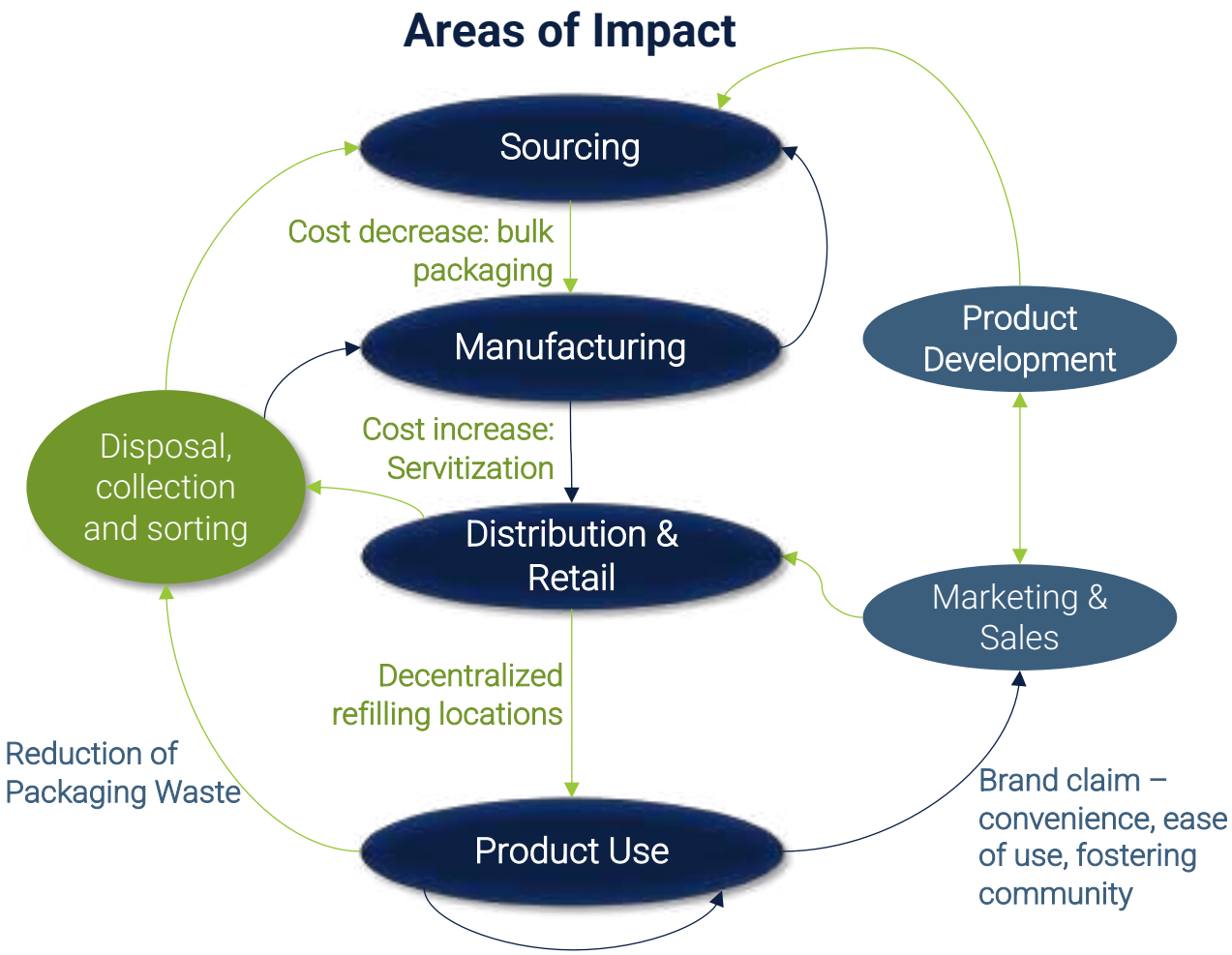
Bulk Sharing/Facilitation Applications Definition and Impact Areas

Definition

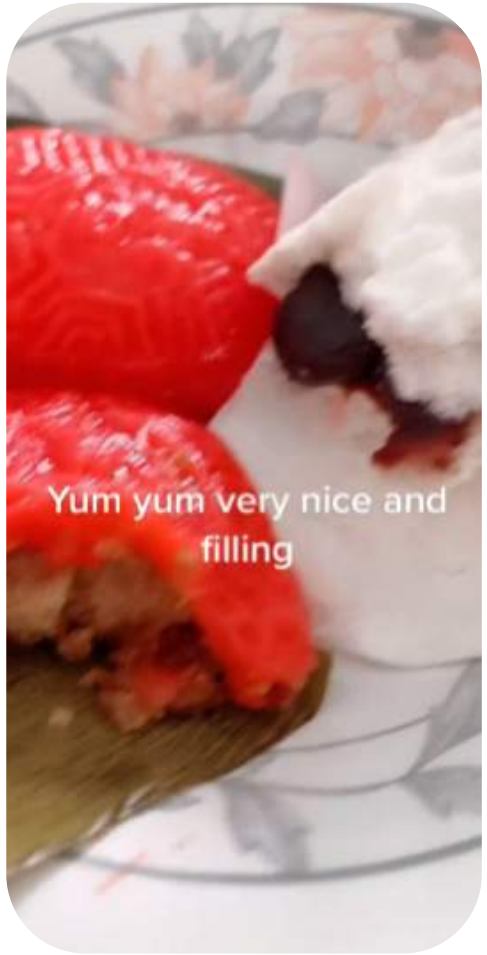
- One entity buys in bulk and allows others to buy smaller quantities from them while retaining bulk prices
- This model has the most environmental impact when combined with refill models

Examples

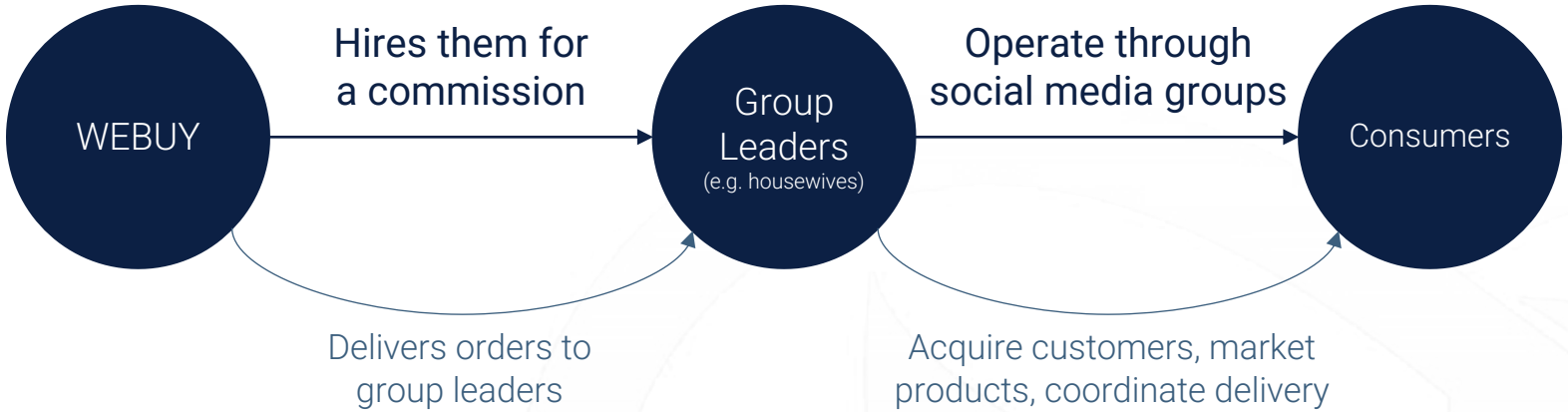
- Example 1: WEBUY



WEBUY



WEBUY's Group-Buying Model



Profit Model	Network	Service	Channel	Customer Engagement

Product as a Service – Bulk Sharing Facilitation

	Opportunities	Barriers
Consumer	• Lower costs • Convenience of delivery/nearby pickup	• High usage change
Commercial	• Ability to build brand loyalty	• Unconventional selling avenue
Operations & Logistics	• Selling in bulk quantities	• Must establish network of sellers
Financial	• Increased customer reach = increase in sales	• Payment of network of sellers
Environmental	• Bulk packaging sales • Opportunity to incorporate product refills	• No change
Social	• Increased brand loyalty through interaction on app	

Applicability for Clorox

Optimal Conditions for Bulk Sharing to Work

- High population density market
- High barrier for reverse logistics
- High usage change for consumers

Potentially Irrelevant

CLOROX
Hidden Valley
BURT'S BEES
TRUE TO NATURE
NEOCELL
Fresh Step

Irrelevant

BRITA
GLAD
KINGSFORD

"In Africa we have a concept known as ubuntu based upon the recognition that we are only people because of other people"

NELSON MANDELA

ubuntoo