McKinsey & Company

Packaging: Sustainability and Innovation - Exploring the Next Horizon

May 7, 2024

Sustainable Packaging Hub

Topics for today

Themes

Key trends across the packaging value chain

Strategy

Adopting a holistic approach to balance tradeoffs for a successful transition to sustainable packaging

Tradeoffs

Hurdles faced by companies on their sustainability journey

Introductions

Moderator

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Lead of Sustainable Packaging Hub

Sustainability in packaging covers 6 dimensions

Dimension	Definition
Recyclability	Share of packaging which can be recycled after use
Recycled content	Share of packaging made out of recycled material
Low weight	Low packaging weight (e.g., lower amount of material used and/or change in packaging material)
Re-usability	Share of packaging which can be reused either directly as packaging or for another purpose (e.g., edible packaging)
Competitive/low CO2[1] footprint	Amount of CO2[1] emitted by the packaging on all scopes 1-2-3
Waste/ landfill	Amount of packaging ending in waste/landfill

1. And other GHG gas if applicable

Source: Expert interviews; McKinsey

Significant shifts in stakeholder mindsets driving sustainability transition

1
Consumers

2
Regulators

3
Investors

Significant shifts in stakeholder mindsets driving sustainability transition

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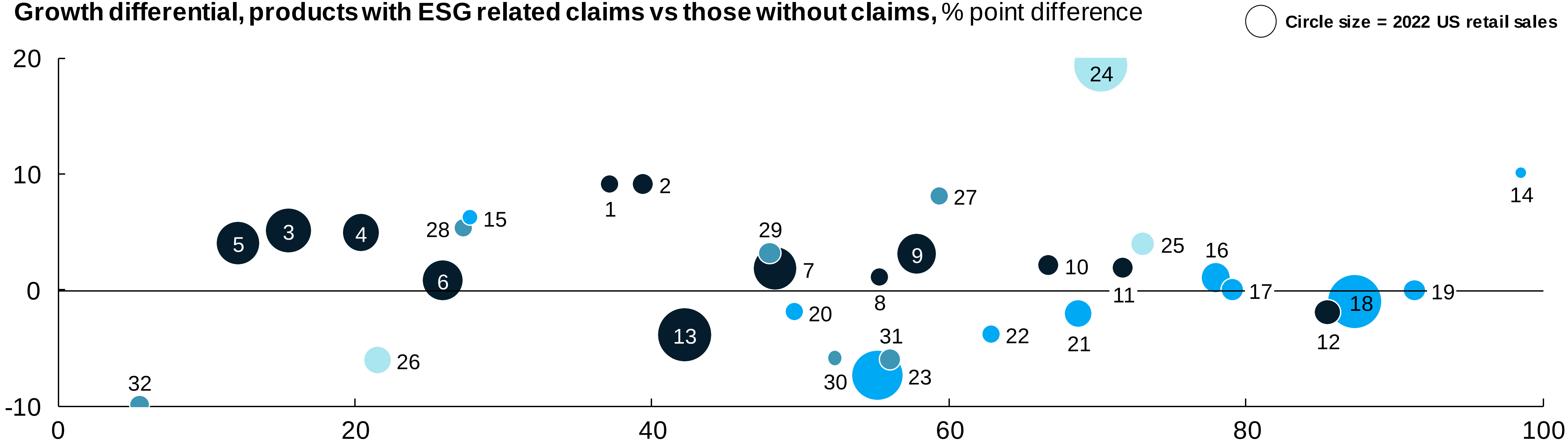
1. Consumer spending on products with ESG[1] claims on packaging is on the rise

28% growth for products with ESG claims vs 20% for products without claims[2]

Growth differential, products with ESG related claims vs those without claims, % point difference



Share of retail sales from products with ESG-related claims, %

Food

1. Sweet snacks
2. Yogurt
3. Cheese
4. Fully cooked meat
5. Candy, gum, and mints
6. Desserts
7. Frozen prepared food
8. Diet and nutrition
9. Seafood
10. Baking staples
11. Condiments
12. Cereal and granola
13. Salty snacks

Beverage

14. Kombucha
15. Sports drinks
16. Packaged coffee
17. Fruit drinks
18. Soft drinks
19. Fruit juice
20. Ready-to-drink coffee
21. Water
22. Liquid tea
23. Beer, cider, FMB[3]

Household

24. Paper and plastics
25. Laundry care
26. Pet foods

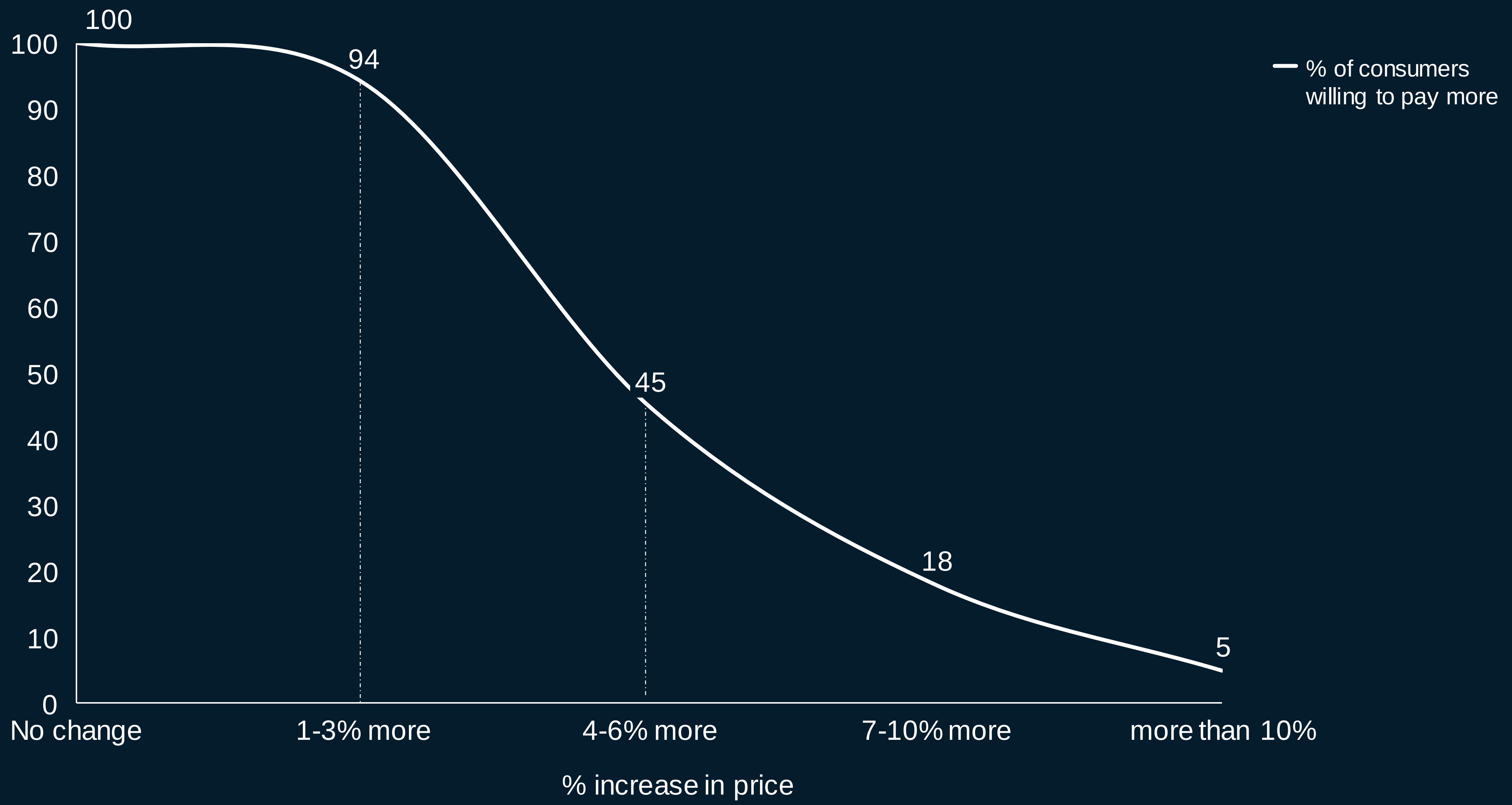
Personal care

27. Bath and shower
28. Cosmetics, nail grooming
29. Hair care
30. Baby food
31. Diapers
32. Baby formula

1. Environmental, social, and governance.
2. Difference between June 2018 – June 2022 CAGR growth for products with ESG-related claims vs those without.
3. Flavored malt beverages.

Source: NielsenIQ and McKinsey joint study on sales growth for products that claim to be environmentally and socially responsible

1. Consumers exhibit a strong willingness to pay a premium of up to 3% for sustainable packaging



Source: McKinsey Consumer Sentiments' Survey

1. Consumers' willingness to pay for sustainable packaging is higher on fresh produce, poultry, and dairy categories

Top 3 categories where consumers are willing to spend higher for sustainable packaging

Willingness to pay

– Low

High +

- Packaged foods
- Beverages
- Personal hygiene/beauty

- Prepared food
- Household cleaning products
- Pet food
- Semi-prepared food
- Frozen foods
- Clothing

- Fresh fruit & vegetables
- Fresh meat, poultry, & fish
- Dairy products
- Housewares

Source: McKinsey Consumer Sentiments' Survey

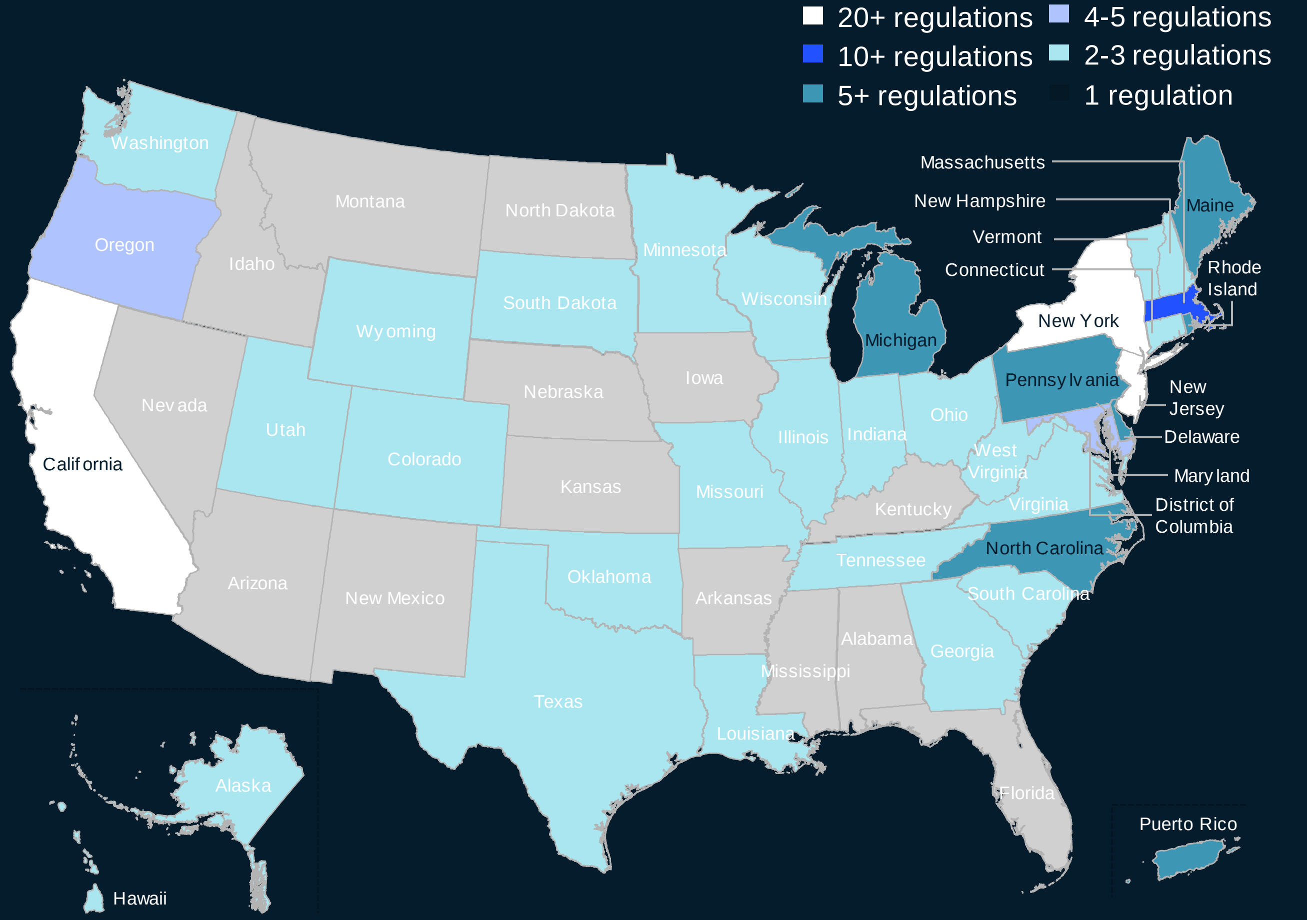
Significant shifts in stakeholder mindsets driving sustainability transition

NOT EXHAUSTIVE. Does not substitute for legal advice.

2. Surge in regulations driving a need to act on sustainable packaging

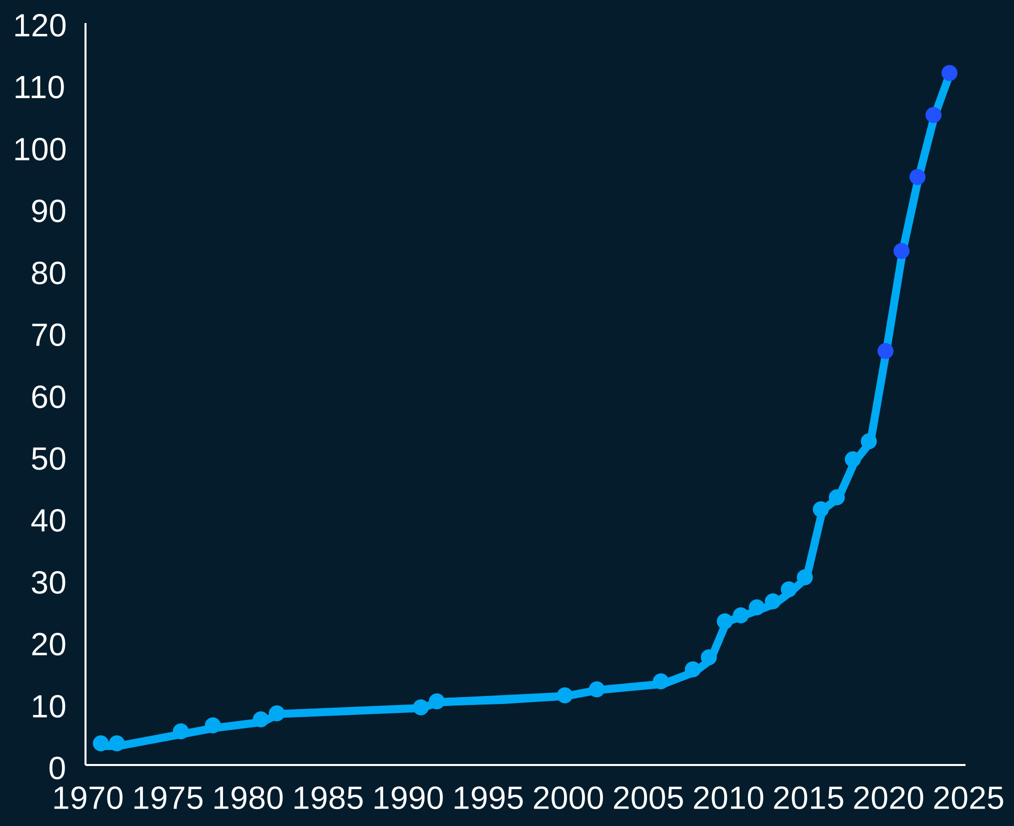
Number of regulations by state

Including regulations in application, validated bills but not yet in application and under discussion



Number of laws that went into effect linked to sustainable packaging (cumulative)[1]

1971-2024(YTD)



1. Through 2024(YTD)

Source: National Conference of State Legislatures, McKinsey Sustainable Packaging Hub, Press Search, McKinsey analysis

2. The US packaging regulatory landscape is complex and fragmented but evolving at a rapid pace

2024 regulations

10+ states

with regulations in effect on **expanded polystyrene (EPS)** packaging

10 states

with regulations in effect on banning PFAS[1] in food packaging

10 states

with a beverage bottle bill (i.e., **deposit refund scheme**) in place

12 states

with legislation in effect on **plastic bags**

3 states

with regulations in effect on minimum **post-consumer recycled content (PCR)**

3 states

with regulations enabling the use of **reusable** food containers in establishments

1. PFAS : Per- and polyfluoroalkyl substances

Source: National Conference of State Legislatures, McKinsey Sustainable Packaging Hub, Press Search, McKinsey analysis

2. With PPWR approval, recycling, reusability, and DRS[1] will remain the top focus areas

	Passed PPWR
Recycled Content	Extended Scope: Contact sensitive[1] non-PET packaging: **10% PCR content by 2030** Contact sensitive[1] PET packaging: **30% PCR content by 2030** SUP beverage bottles: **30% PCR content by 2030** Other plastic packaging: **35% PCR content by 2030**
Composting	Use of compostable plastics **limited to plastic bags and tea/coffee single serves**
Recycling Classes	**Uniform grade A-C criteria[2]** will be introduced; **all packaging must meet grade C by 2030** or will be banned
Reusability	**10-40%** of packaging must be reusable by 2030; **Transport / Sales** packaging - **40% reusable** by 2030; **Grouped / Beverage** packaging - **10% reusable** by 2030
DRS	**Mandatory DRS** by 2029 for SUP and metal beverage containers

1. Includes packaging directly in contact with food or medical products.
2. Assessment of recyclability per unit, in terms of weight are as follows for each performance grade: A (≥95%), B (≥80%), C (≥70%) and non-recyclable (<70%).

Source: Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC

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3. ESG Criteria are taking center stage in investors' strategy like never before

120

New sustainable funds started in Q4 2023[1]

$130T

In climate finance commitments under the Glasgow Financial Alliance for Net Zero[2]

71%

Of investors agree that green transition is one of the important themes in investing[3]

74%

Of institutional investors consider environment and societal impact of their investment decisions[4]

1. Global Sustainable Fund Flows: Q4 2023 in Review
2. https://www.bloomberg.com/news/articles/2021-11-02/carney-s-climate-alliance-crests-130-trillion-as-pledges-soar
3. Capital Group - ESG Global Study 2023
4. Nuveen's (TIAA company) 2023 Equilibrium Survey of institutional investors around the world

3. Decarbonization will drive for large scale capital reallocation

A near-term, bottom-up view across 11 sectors shows **$9-$12T global sustainability investment** opportunity by 2030[1]

Capital markets **increasingly requesting sustainability** in investment evaluations

$12 trillion of assets are managed by ESG investors, seeing 21% growth over 2012 in the US

Select examples of major investors' actions[2]

BlackRock

Blackrock's Sustainable Investing Platform had **$586B in AUM in 2022**, representing $77B YoY change

RBC

Committed to deploy **$500 billion in sustainable finance by 2025 and** committed to **Net-Zero by 2050**

Goldman Sachs

Committed to **invest $750B in sustainable finance** services by 2030

UBS

Sustainable investing AUM reached $268B in 2022, an increase of 6.5% YoY. Sustainable investing represented 6.8% of total AUM.

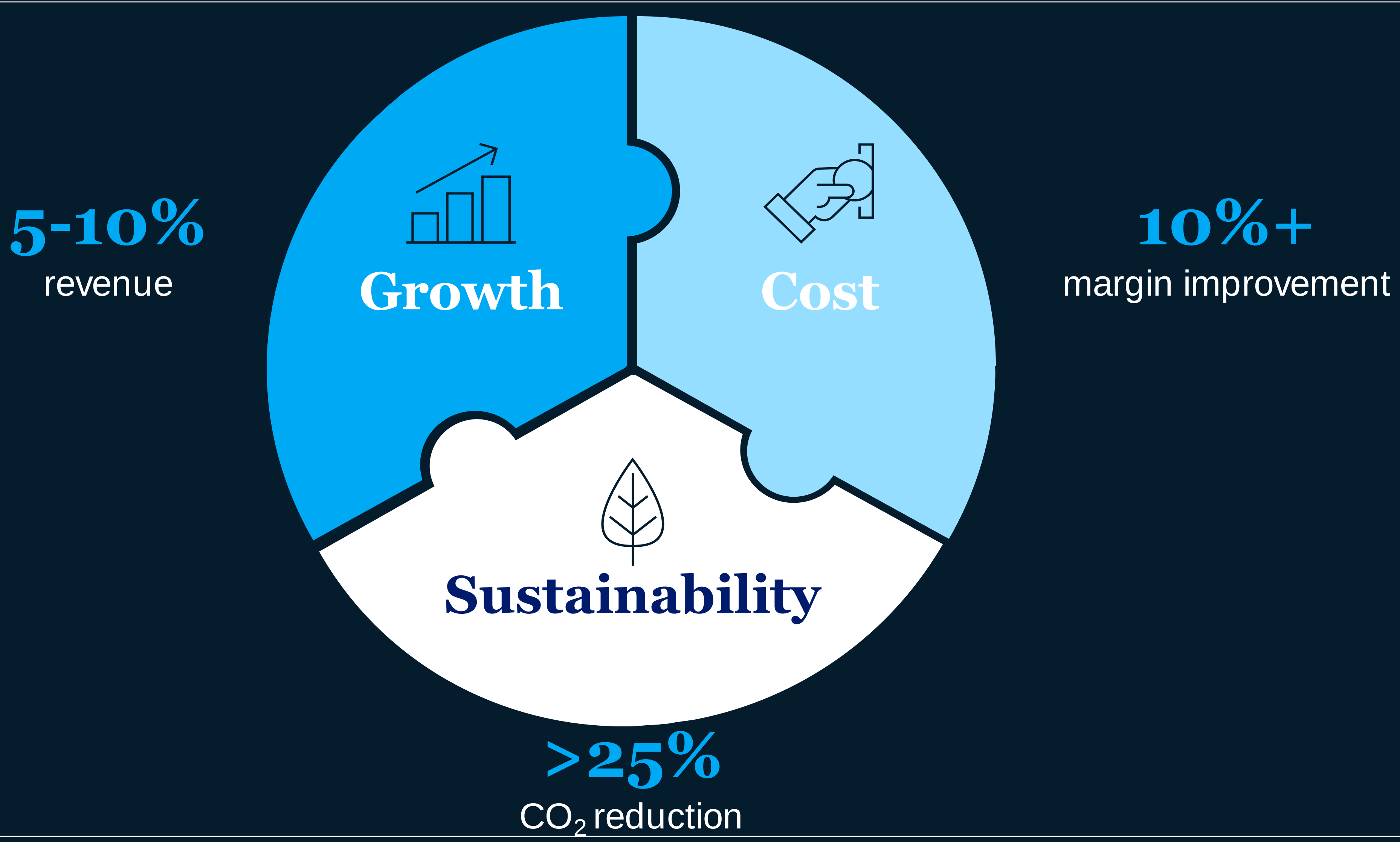
1. McKinsey analysis
2. Respective company website/investment reports from 2020-2024

Market trends putting pressure on companies to innovate

1. **Price and quality** are of prime importance to consumers during purchasing decisions
2. **E-commerce is here to stay** as majority of consumers are willing to purchase goods online
3. **Higher growth expectations** are being prioritized by shareholders, which are driving valuation multiples
4. **Cost Efficiency** is a necessity as margins are declining due to inability to hold prices coupled with high cost of goods sold (COGs)
5. **Strong Emphasis on Sustainability** is a growing theme amongst various stakeholders – consumers, regulators, and investors

Focus areas for the webinar

A Triple Win approach concurrently solves for increased top-line, improved margins, and reduced emissions



Sustainable Packaging can deliver on triple win but needs core capabilities upgraded

CONSUMER INSIGHTS

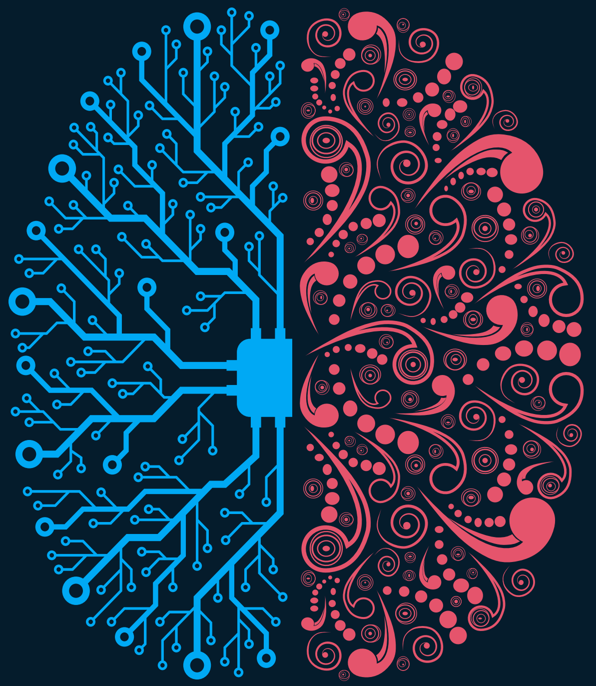
- Gather deep user insights and extract customer value drivers
- Quantify subjective wants and needs at scale by leveraging digital and analytics tools

COMPETITIVE INSIGHTS

- Determine market landscape to assess industry whitespace
- Identify best-of-best across competitor solutions & benchmark E2E packaging designs vs. global database

DESIGN INSIGHTS

- Optimize packaging through advanced-analytics-driven simulations
- Select, refine and rapidly optimize empirically-tested and highly predictive package designs for growth



SUPPLY INSIGHTS

- Build bottom-up detailed cost models to inform design and supplier negotiations
- Calculate CO_2 footprint and identify levers for improvement

PACKAGING PORTFOLIO RETHINK

- Optimize price pack architecture strategy for growth and savings
- Identify and eliminate “cost-of-complexity” for SKUs to optimize portfolio
- Find the optimum balance between diversity and standardization

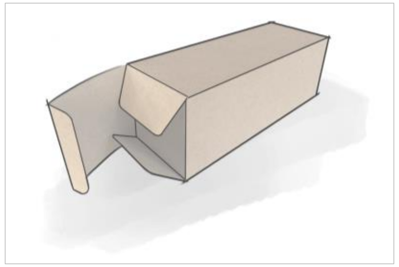
EXECUTION & SCALE

- Build and sustain new capabilities with strong implementation support
- Transform the scale of impact with digital tools

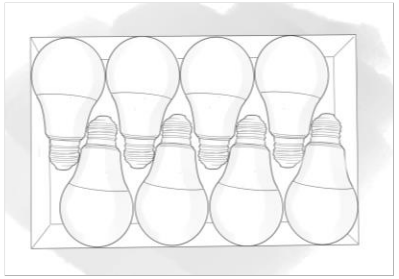
Case Study: Revamped LED packaging to achieve stacked wins - lower costs, reduce environmental footprint, and freight savings

Current state

Step

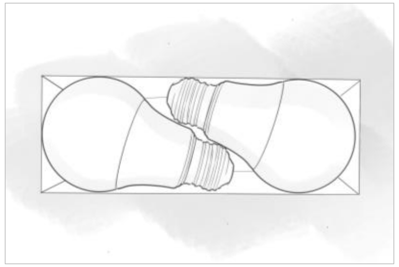


Replaced bleached white w/ brown kraft or recycled paperboard

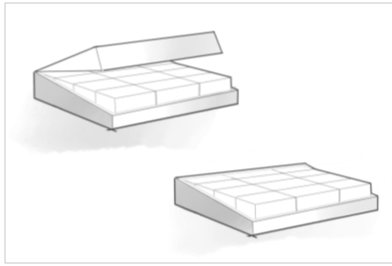


Use larger multi-pack (~4-10 packs) to reduce freight & optimize packaging

Stretch

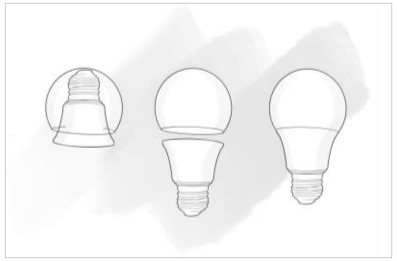


Improved nesting for 2 pack



Eliminate tray cover with perforation

Leap



Nest LED in diffuser for easy home assembly and transport savings

Pre-assembled bulbs in lamps

Impact

~25% cost

~30% CO_2

~30% water

~40% freight

…and 5 additional new impact areas (freshwater eutrophication, GHG emissions, fossil fuel, human impact, mineral use)

Let’s connect!

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How to reach us?

Sustainable Packaging Hub Microsite