Consumer packaged goods (CPG) companies are responding to changing consumer expectations, including for more sustainable products. NYU Stern CSB, in partnership with Circana, conducts the only annual analysis of CPG purchasing data in the US to assess the performance of sustainable products in the evolving market.

NYU Stern Center for Sustainable Business partnered with Circana (formerly IRI), to assess the following:

1. How have sustainable products fared over time and in the face of inflation?
2. Are there specific product categories for which the purchases of more sustainable product options out- or under-perform less sustainable alternatives?
3. What is the price premium of sustainable products?
4. How important has sustainability become in new product development? (2021 report)
5. How have sustainable products fared in e-commerce? (2020 report)
6. What is the demographic profile of the sustainable purchaser? (2019 report)
7. What is the impact of product availability on share? (2021 report)

Note: This study represents an updated and significantly expanded review of consumer purchasing first presented in March 2019.
Sustainable Market Share Index™: Executive Summary

We reviewed consumer purchasing of sustainability-marketed products in 36 consumer packaged goods (CPG) categories comprising ~40% of the total CPG market* ($). Our findings are:

**Sustainability-Marked Products Share Performance**

- Products marketed as sustainable now hold a 17.3% market share, **up +3.6 ppts vs 2015, and up 0.3 ppts vs. prior year despite high 2022 inflation** driving strong store brand performance (Pgs. 6-7)

- Products marketed as sustainable **grew ~2x faster** than products not marketed as sustainable and achieved a 5-YR **CAGR of 9.43% vs. 4.98%** for its conventional counterparts (Pg. 8)

- Sustainability-marketed products delivered approximately **one third of all CPG growth**, despite representing 17.3% share (Pg. 9)

- The market share of sustainability-marketed products roughly aligns along a **continuum**. Even in categories with low shares, shares of sustainability-marketed products have increased (Pg. 12)

**Price Premiums and Elasticity of Sustainability-Marked Products**

- Sustainability-marketed branded products still enjoy a **price premium of 28** vs. their conventionally-marketed branded counterparts, but the **differential has decreased** since 2019 (Pgs. 14-15)

- Since the pandemic, year to year **price increases of conventionally-marketed products** have **significantly outpaced** their sustainable counterparts (Pg.16)

- Sustainability-marketed products are largely less sensitive to price - 2019 (Pg. 17)

---

*Excluding alcohol and tobacco. **Weighted by $ Sustainable Sales of categories examined*
Carbon Labeling (2021 report)

• Carbon Labeled products now account for $3.4B in Sales, up from $1.7B in 2020 (Pg. 10)

Innovation (2021 report)

• The percentage of new products that incorporate sustainability benefits have increased every year since 2017 (Pg. 19)

E-Commerce (2020 report)

• Sustainability marketed products enjoy stronger shares online vs. in-store (Pgs. 21-22)

Demographics (2019 report)

• Upper income, millennials, college-educated and urban consumers are more likely to buy sustainability-marketed products. In addition, Middle Income, Baby Boomers and Gen Xers contribute a significant percent of sustainable sales (Pgs. 24-27)

Availability (2021 report)

• Availability of sustainability marketed products strongly correlates with share performance (Pg. 29)
Research Question: How have sustainable products fared over time and in the face of inflation?

Research Result: Sustainability-marketed products have grown every year since 2015, with a significant share increase during the pandemic and 2022 inflation. Moreover, they are contributing to a disproportionate share of the CPG category growth.
Sustainable Market Share Index™: 2022 Market Share

Sustainability-marketed products continues to grow share despite high inflation

36 categories examined
Store Brand share of market was 18%, up +0.7 ppts from 2021 to 2022 suggesting that branded sustainable products are more insulated from inflation-driven moves to store brands.

**Private Label: CPG**

<table>
<thead>
<tr>
<th>Year</th>
<th>Share of CPG market</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>17.3%</td>
</tr>
<tr>
<td>2022</td>
<td>18.0%</td>
</tr>
</tbody>
</table>

**Sustainable Market Share**

<table>
<thead>
<tr>
<th>Year</th>
<th>Share of CPG market</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>17.0%</td>
</tr>
<tr>
<td>2022</td>
<td>17.3%</td>
</tr>
</tbody>
</table>

* From IRI private label report

** 36 categories examined
Sustainable Market Share Index™: Growth Rate

Sustainability-marketed products grew ~2x faster than conventionally marketed products

Note: Based on 36 categories examined
Sustainable Market Share Index™: Contribution to Growth

Despite sustainability-marketed products being less than one-fifth of the market share, they delivered ~one-third of the growth since 2013.

$ Share of Market (2022)
- Sustainability-marketed products: 17.3%
- Conventionally-marketed products: 82.7%

$ Share of Market Growth (2013-2022)
- Sustainability-marketed products: 30.0%
- Conventionally-marketed products: 70.0%
Sustainable Market Share Index™: Carbon Labeling (2021)

Carbon-labeled products delivered sales of $+3.4B in 2021, up from $1.7B in 2020.
Research Question: Are there specific product categories where the purchases of more sustainable product options out- or under-perform less sustainable alternatives?

Research Result: Yes. Categories are in different stages of development. Almost all categories are seeing sustainable share increases from innovation with sustainable benefits and greater adoption of sustainable benefits, often by category leaders, making sustainability table stakes.
Categories highlighted in green text indicate share growth in 2022 vs. 2015 that resulted in the category moving to a higher share cluster.
Research Question: What is the price premium of sustainable products?

Research Result: Sustainability-marketed products still enjoy a sizeable premium vs. their conventional counterparts but that gap has shrunk substantially in recent years, as conventional product price increases significantly outpaced their sustainable counterparts and historically conventional products adopt sustainable benefits without taking a commensurate price increase.

Analysis conducted was among branded players and excluded store brand/private label; based on 36 categories examined
Sustainable Market Share Index™: Price Premiums over Time

Recent price increases on conventionally marketed products reduced the price premium between sustainability-marketed products and their conventional counterparts.

*Weighted by $ Sustainable Sales of categories examined; analysis excluded store brand/private label
Sustainable Market Share Index™: Year over Year Price Premiums

Given recent inflationary pressures, conventionally marketed products took higher price increases than sustainability-marketed products.
In a majority of categories, sustainability-marketed products still command price premiums, ranging from 1% to over 107%. A few categories had price discounts vs. conventionally marketed products.

Sustainability-marketed products had **lower price sensitivity** in most categories studied: food categories had the greatest price leverage.

Price sensitivity is the % change in volume due to a 1% change in price* 2018 analysis.
Research Question: How important has sustainability become in new product development?

Research Result: The percentage of new products with sustainable attributes have increased every year since 2017. In 2021, approximately one out of every two new products introduced had a sustainable benefit.
The percentage of new products that incorporate and communicate sustainability benefits have increased every year from 2017 to 2021.

<table>
<thead>
<tr>
<th>Year</th>
<th>Sustainable new products as a percent of total new products</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>28.06%</td>
</tr>
<tr>
<td>2018</td>
<td>32.88%</td>
</tr>
<tr>
<td>2019</td>
<td>36.53%</td>
</tr>
<tr>
<td>2020</td>
<td>36.60%</td>
</tr>
<tr>
<td>2021</td>
<td>48.10%</td>
</tr>
</tbody>
</table>

Note: Based on 32 categories examined
Research Question: How have sustainable products fared in e-commerce?

Research Result: Products marketed as sustainable have outperformed conventionally marketed products in e-commerce. Moreover, sustainability-marketed products perform better online vs. in store.
In 3/4ths of the categories examined, shares of sustainable products are stronger online than in store.
Sustainable Market Share Index™: E-commerce Performance

Sustainability marketed products grew slightly faster than both the category and conventional products.
**Research Question:** What is the demographic profile of the sustainable purchaser?

**Research Result:** Millennials, upper income, college-educated and more urban cohorts are more likely to buy sustainability-marketed products. Baby Boomers, Gen Xers, upper and middle income, college educated and urban cohorts account for the bulk of the sustainable dollars spent.

* Analysis conducted using IRI HH panel data; based on 35 categories examined
The younger the household, the more likely they were to buy sustainability-marketed products. However, most sustainability-marketed product purchases came from Gen X and Boomers.

Sustainable Market Share Index™: Generational Cohorts (2019)

Chart read as: Millennials purchased a significantly higher percent (>1.2x) of their Carbonated Beverage purchases on sustainability-marketed products, than did Average HHs.
The higher the education, the more likely they were to buy sustainability-marketed products. Most of the sustainability-marketed product sales came from college graduates or those with some college education.

**Sustainable Market Share Index™: Household Education (2019)**

Chart read as: Female HH who attended Post Graduate School purchased a significantly higher percent (>1.2x) of their Carbonated Beverage purchases on sustainability-marketed products, than did Average HHs.

* 7% had no female present

**Total CPG Sustainable Sales Composition**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Graduate School</td>
<td>17%</td>
</tr>
<tr>
<td>Graduated College</td>
<td>33%</td>
</tr>
<tr>
<td>Some College</td>
<td>25%</td>
</tr>
<tr>
<td>Graduated High School</td>
<td>16%</td>
</tr>
<tr>
<td>Some High School or Less</td>
<td>2%</td>
</tr>
</tbody>
</table>

Index 120+  
Index 80-120  
Index <80  

* Index 120+ represents significantly higher percentage of sustainability-marketed product purchases compared to average HHs.

- **Index 80-120** represents moderate differences compared to average HHs.
- **Index <80** indicates lower than average HHs.
The higher the household income, the more likely they were to buy sustainability-marketed products. Upper/middle income made up the highest percent of sustainability-marketed product dollars spent.

**Sustainable Market Share Index™: Income Tiers (2019)**

Chart read as: Upper Income Households purchased a significantly higher percent (>1.2x) of their Carbonated Beverage purchases on sustainability-marketed products, than did Average HHs.
Sustainable Market Share Index™: Urbanicity (2019)

The more urban the residence, the more likely the purchases of sustainability-marketed products. County A accounted for just under half of the total CPG sustainability-marketed dollars spent.

Chart read as: County A purchased a significantly higher percent (>1.2x) of their Carbonated Beverage purchases on sustainability-marketed products, than did Average HH’s.
Research Question: What is the impact of product availability on share?

Research Result: Sustainability marketed product share highly correlates with product availability.

High correlation between availability and share ranging from .79 to 1.0

- **Detergent:** 2%
- **Coffee:** 23%
- **Yogurt:** 60%

- **Detergent:** 4%
- **Coffee:** 26%
- **Yogurt:** 72%

Note: The darker the blue, the greater the availability; Share of sustainability marketed products are the percentages listed.
About the NYU Stern Center for Sustainable Business

The NYU Stern Center for Sustainable Business was founded on the principle that sustainable business is good business; delivering better financial results while protecting the planet and its people. We aim to help current and future business leaders embed social and environmental sustainability into core business strategy, resulting in competitive advantage and resiliency for their companies as well as a positive impact for society.

Randi Kronthal-Sacco is a Senior Scholar for the NYU Stern Center for Sustainable Business. Ms. Kronthal-Sacco was a senior executive at Johnson & Johnson and is a Stern alumna.

Tensie Whelan is a Clinical Professor at NYU Stern and Founding Director of the NYU Stern Center for Sustainable Business.

Please contact sustainablebusiness@stern.nyu.edu or rkrontha@stern.nyu.edu with any comments or questions.
Acknowledgments

The NYU Stern Center for Sustainable Business would like to thank the IRI organization for the generous donation of its data.

A special thank you to IRI’s Joan Driggs, and Sheila Noojibail

We are grateful to Professor Bryan Bollinger for his continued academic support.

We would like to acknowledge the research support of current and previous NYU Interns Alicia Xu, Mohamed Nazar, Hurkan Kurtolglu, Prachika Agarwal, Alexandra Walstad, Dorea Noveaz, Samuel Wallace, Ethan Ou, Jessica Tou, Patrick Wu, and Anirudh Dave as well as market research consultants Elena Kanner and Biren Shah.
Appendix
Methodology

Data

• Circana (formerly IRI) Point of Sale, HH panel, and e-market insights data in all measured channels in U.S.

Selection Criteria

• 36 categories examined held the largest dollar volume; in a few cases, smaller categories were included to ensure fair representation of all major CPG segments
• Over 250,000 products reviewed; products with 0.00 dollar share of category were not considered unless identified as organic.
• Due to lack of visibility into private label product claims, private label was not included as sustainability-marketed, with the exception of organic private label in the food categories.

Sustainability-Marked Products Determination

• Identified all skus for each category marketed as sustainable with on-package communication, e.g. 3rd party certification (e.g. USDA Organic), containing organic ingredients, no phosphates, no phthalates, etc.
• Sustainability determination focused on the product itself, not the recyclability of the package.
• A very conservative approach was adopted. For example, the following was not considered sustainable:
  • Natural with no other sustainable identification
  • Recyclable packaging

Other Assumptions/Information

• Products that were deemed sustainability-marketed in 2018 were considered sustainability-marketed in 2015. This likely depressed the growth numbers in the earlier years.
• We made no attempt to assess if products marketed as sustainable were, in fact, sustainable. Instead, we focused on whether the marketing of a product as sustainable would drive purchase.

All estimates and analysis in this paper based on Circana data are by the authors and not by Circana, formerly Information Resources, Inc.