

SEVENTH ANNUAL PRACTICE FORUM

Unlocking Enterprise
Value through
Embedded Sustainability



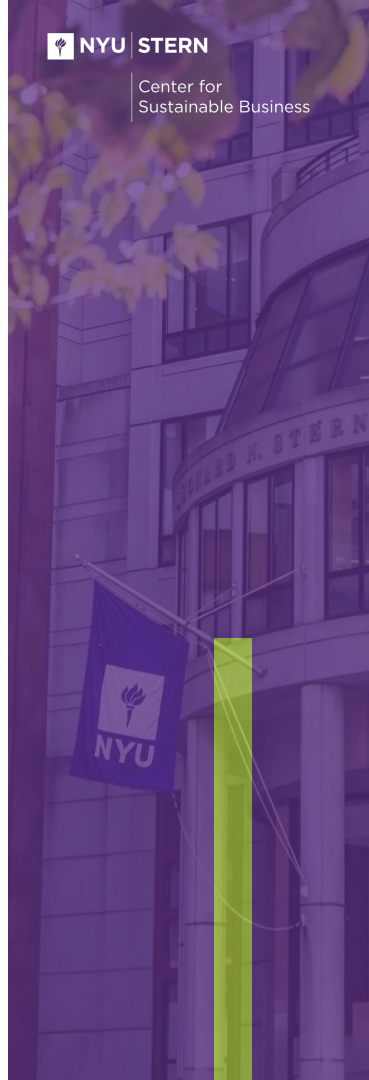
Friday, March 15



9:00am - 5:00pm ET



NYU Stern School of Business & Virtual



Thank you to our sponsors



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NESPRESSO[®]

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Opening Remarks




ALAN MURRAY

CEO
Fortune Media



NESPRESSO

 **NYU | STERN**

Center for
Sustainable Business

As a longstanding partner of **New York University Stern Center for Sustainable Business**, Nespresso is thrilled to serve the below blends for today's event during breakfast, lunch and coffee breaks. All capsules will be recycled through our NYC curbside recycling program.

Learn more on our website or by asking one of our baristas.



ROASTED HAZELNUT

Rich & Nutty
7.77 oz | Coffee

The rich, caramelized flavor of roasted hazelnut delights with sweet, velvety Arabica beans.



COSTA RICA

Malty & Sweet
5.07 oz | Gran Lungo

The one-of-a-kind process of fermentation in hot-spring waters brings a balanced, clean taste.



ALTISSIO

Full-Bodied & Creamy
1.35 oz | Espresso

Bold taste cloaked in a creamy cereal note, full-bodied with a thick crema full of roasty notes.



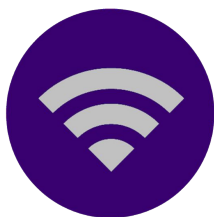
INTENSO

Deep & Dense
7.77 oz | Coffee

Brown sugar, roasted notes. An intense dark with a thick coffee crema and a distinct aftertaste.



WiFi and Virtual Program



WiFi: nyuguest

Username: csbforum959

Password: x?iUØHsD



CSB Research Roundup



TENSIE WHELAN

Founding Director
NYU Stern CSB



Unlocking Enterprise Value Through Embedded Sustainability

Professor Tensie Whelan
Founding Director
NYU Stern CSB



NYU Stern Center for Sustainable Business



**Unleash the business value
of sustainability**

&

**the transformative
potential of business**

to

**solve societal challenges at
speed and scale**

Motivating leaders to shape a new business paradigm

Innovation in Education



- Top 10 specialization among MBA students with 30+ offered classes
- Fellowships/internships
- Experiential learning
- Executive education

Practical Research



- Return on Sustainability Investment™
- Sustainable Market Share Index™
- Invest NYC SDG
- Private Equity Responsible Investing

Business Breakthroughs



- Research partnerships
- Bespoke executive trainings
- Practice forum

The Latest and Greatest: CSB Research in 2023/24

- Growing ESG Expertise on Boards
- Consumers Stay the Course on Sustainability
- The ROSI of Decarbonization is Positive
- Private Equity and Driving ROSI
- Decarbonization and Food Finance initiatives
- New Academic Study on the Correlation between Sustainability and Financial Performance



Fortune 100 Board Member ESG Expertise Improving But Still Lacking

Researchers:
Tensie Whelan
Ozair Arfi, MBA Candidate
Lauren Marx, Undergraduate



Boards Need Expertise in Material Sustainability Issues

- Certain sustainability issues are material to a company's performance
- Increasingly, boards are being held accountable for sustainability topics (reporting, compliance, greenwashing, societal impacts)
- Boards need ESG background and training to ask the right questions
- Boards need committees to help focus on the right ESG issues



Fortune 100 Board ESG Expertise Grows: 2018 - 2023

29% of 1188 directors had relevant ESG credentials in 2018

- 21% had S experience
- 6% each for E and G

43% of 1161 board members have relevant ESG credentials in 2023!

- 13% E credentials
- 15% G credentials
- 21% S credentials

In 2018, 22 boards had ESG committees. In 2023, 89 had ESG committees

- In 2018, 24% of men had ESG credentials; 36% in 2023
- In 2018 40% of women had ESG credentials in 2018; 56% in 2023
(Female board members 25% of total in 2018; 34% in 2023)

Highlighted Changes:

S credentials:

- DEI credentials increased from 60 to 108 board members – the largest ESG area
- Nonprofit C-Suite executives from 9 to 24

G credentials:

- Accounting oversight increased from 31 to 71
- Cyber security increased from 8 to 50

E credentials:

- Sustainable business increased from 10 to 49
- Renewable energy from 14 to 43
- Climate change increased from 3 to 22
- ESG investing from 5 to 15
- **Water stayed at 2!**

Fortune 100 ESG Board Credentials by Category

S Categories	2023		2018		E Categories	2023		2018		G Categories	2023		2018	
	% with Relevant Credentials	% with Relevant Credentials	% with Relevant Credentials	% with Relevant Credentials		% with Relevant Credentials	% with Relevant Credentials	% with Relevant Credentials	% with Relevant Credentials		% with Relevant Credentials	% with Relevant Credentials	% with Relevant Credentials	
Workplace diversity	9.30%	108	5.05%	60	Sustainable business	4.22%	49	0.84%	10	Accounting oversight/experts	6.1%	71	2.6%	31
Economic/community development	2.41%	28	1.09%	13	Renewable Energy	3.70%	43	1.18%	14	Cyber/telecomm security	4.3%	50	0.7%	8
Health challenges/Advocacy	2.07%	24	1.85%	22	Climate	1.89%	22	0.25%	3	Governance	2.5%	29	0.2%	2
Nonprofit C- Suite	2.07%	24	0.76%	9	Conservation/nature	1.21%	14	1.18%	14	Risk	0.9%	11	0.4%	5
CSR/ESG	1.81%	21	1.52%	18	Environmental protection	1.21%	14	0.51%	6	Regulatory body	0.8%	9	1.0%	12
Health care	0.78%	9	3.45%	41	ESG investing	0.69%	8	0.34%	4	Fiduciary/director responsibility	0.7%	8	0.3%	4
Sustainable Development	0.78%	9	0.51%	6	Water	0.17%	2	0.17%	2	Corporate ethics/corruption/professional responsibility	0.2%	2	0.3%	4
Civil and human rights	0.60%	7	1.52%	18	Environmental law	0.09%	1	0.51%	6					
Labor Relations	0.60%	7	1.01%	12	Sustainable development	0.00%	0	0.84%	10					
ESG investing	0.60%	7	0.08%	1										
Youth	0.26%	3	1.18%	14										
Philanthropy	0.17%	2	0.76%	9										
Public Policy	0.17%	2	0.34%	4										
Affordable Housing	0.17%	2	0.25%	3										
Adult education	0.00%	0	0.76%	9										
Media/arts	0.00%	0	0.34%	4										
Nutrition	0.00%	0	0.17%	2										
Workplace safety	0.00%	0	0.08%	1										

Sector Analysis

Highest ESG relevant representation found in:

Materials (83%)

Telecommunications Services (65%)

Consumer: Food, Beverage and Tobacco (61%)

Consumer Staples: Household & Personal Products (52%)

Lowest ESG relevant representation found in:

Utilities (22%)

Communication Services; Media & Entertainment (23%)

Consumer Discretionary: Consumer Durables & Apparel (29%)

Financials: Insurance (30%)



But Do the Boards Have the “Right” ESG Credentials?

A Look at the Energy Sector (124 board members)

37 board members with “E” credentials

- 21 with credentials in renewable energy
- 7 in sustainable business
- Only ONE has expertise in climate and only ONE in ESG investing

18 board members have “S” credentials

- 8 have diversity credentials
- ONE in labor relations
- ZERO board members with credentials in workplace safety

9 board members have “G” credentials

- Primarily in accounting oversight and governance broadly
- Two in cybersecurity and one in ethics

Two Low-Credentialed Companies and ESG Exposure

Enterprise Products (a midstream energy services company)

- Only one ESG-credentialed board member of 14 (expertise in renewables and governance). It has an ESG committee.
- Website covers energy “addition” vs. energy transition and its own GhG emissions have increased. No evidence of planning for the low carbon transition.

The StoneX Group (financial services firm that manages commodity trading -- agriculture, metals, fertilizer, carbon, and risk management for clients)

- Has one ESG-credentialed board of nine (employee relations). Has an ESG committee
- Natural resource based commodities are under immense strain from both environmental (climate change, water scarcity) and social (human rights violation, labor exploitation, negative health impacts) causes. Carbon and environmental market solutions now being offered.

FCStone disposes of loss making energy-trading account

Reuters

March 12, 2009 12:47 PM EDT · Updated 15 years ago



Does the Lack of ESG Credentials Matter? An Instructive Case

McKesson:

Successfully sued as contributing to the opioid crisis by various states, and has material environmental (energy, materials, water), social (access to medicines, ethical clinical trials), and governance (misleading advertising, doctor “incentives”) issues.

In 2018 had NO board members with relevant ESG credentials and NO ESG committee.

In 2023:

- Has an ESG committee
- 2 members with **E** credentials (renewable energy and sustainable business)
- 3 with **S** credentials (in workplace diversity, health care advocacy and civil rights)
- 3 with **G** credentials (telecommunications security, accounting, and corporate law)

Liberty Mutual Board ESG Maturation

Financially material climate risk exists and is growing for property and casualty insurance

In 2018, Liberty Mutual had no board members with climate credentials, though two were affiliated with energy companies. No ESG committee.

In 2023:

- Three board members with climate, low-carbon transition and renewable energy credentials
- Two board members with social credentials in sustainable business and health care advocacy
- No board members with governance credentials (the lack of cybersecurity expertise stands out)
- Now has an ESG committee

Principles of Good Board Sustainability Governance

- Board credentials and training must include the material ESG issues confronting the sector
- Sustainability/ESG committee is a must
- Nominating, audit/risk, comp, etc should include relevant ESG topics
- Management should engage the board in understanding the upside opportunities and downside risks associated with material ESG issues
- Management and the board should engage on embedded sustainability strategy and ROSI KPIs in addition to reporting and compliance

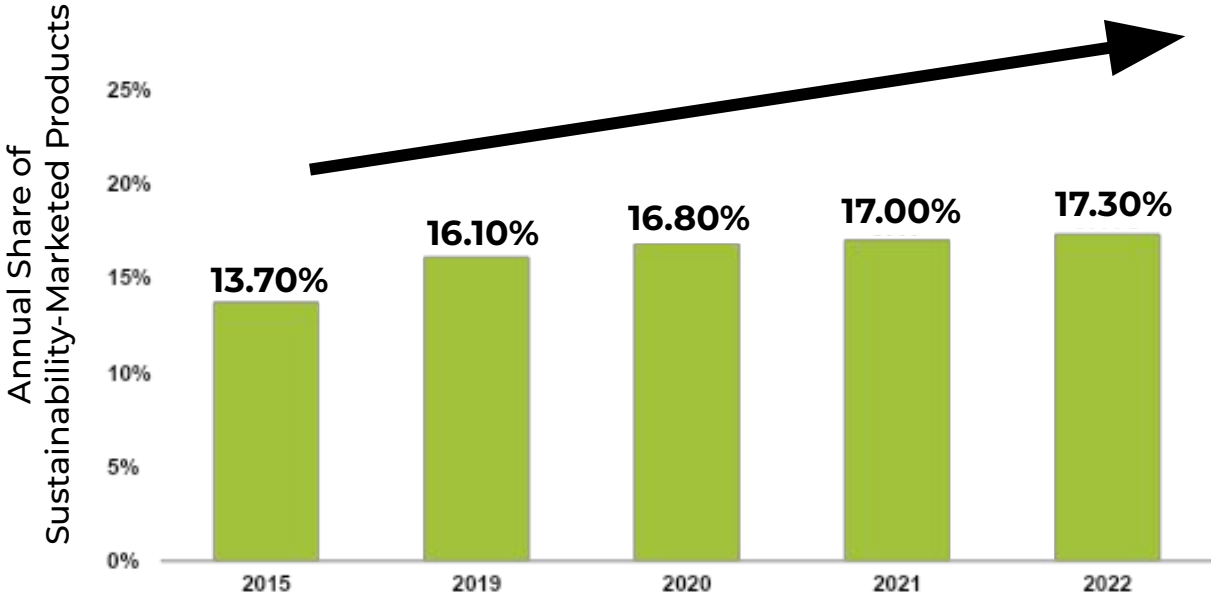
Consumer Purchasing of Sustainability-Marketed Products Annual Review

Randi Kronthal-Sacco
Circana



Sustainable Market Share Index™: 2022 Market Share

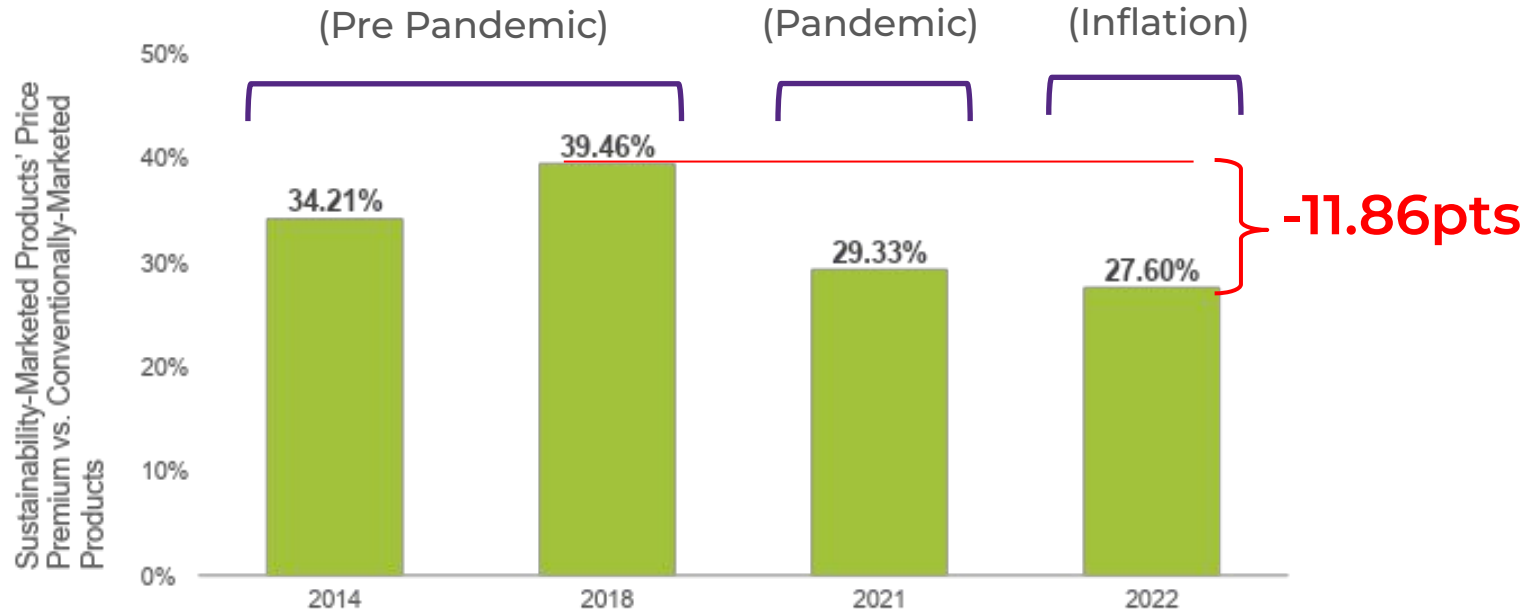
Sustainability-marketed products continues to grow share.



36 categories examined

Sustainable Market Share Index™: Price Premiums

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

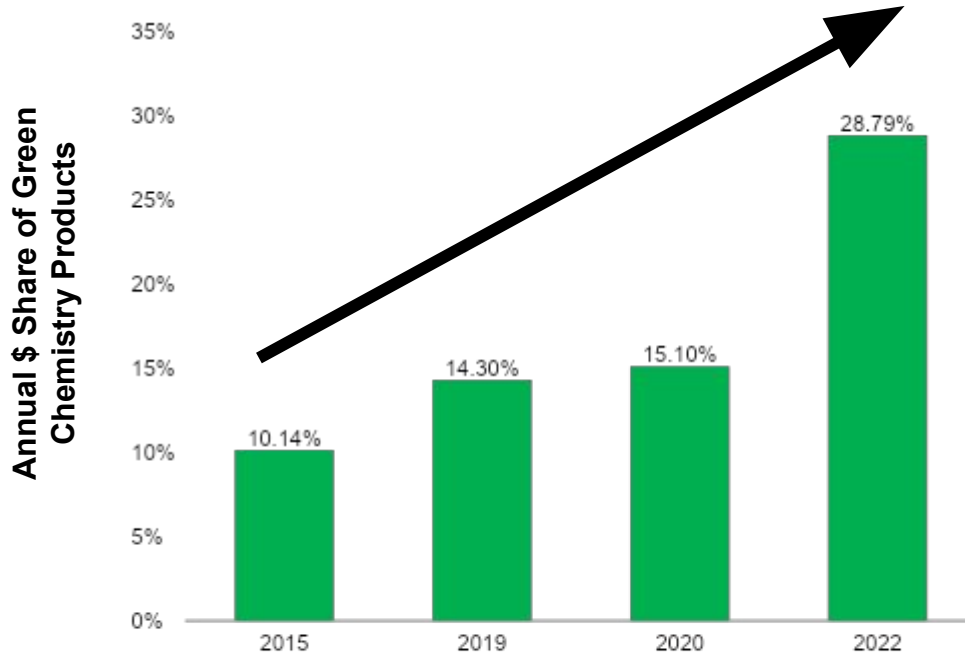


*Weighted by \$ Sustainable Sales of categories examined; analysis excluded store brand/private label

Green Chemistry Market Share

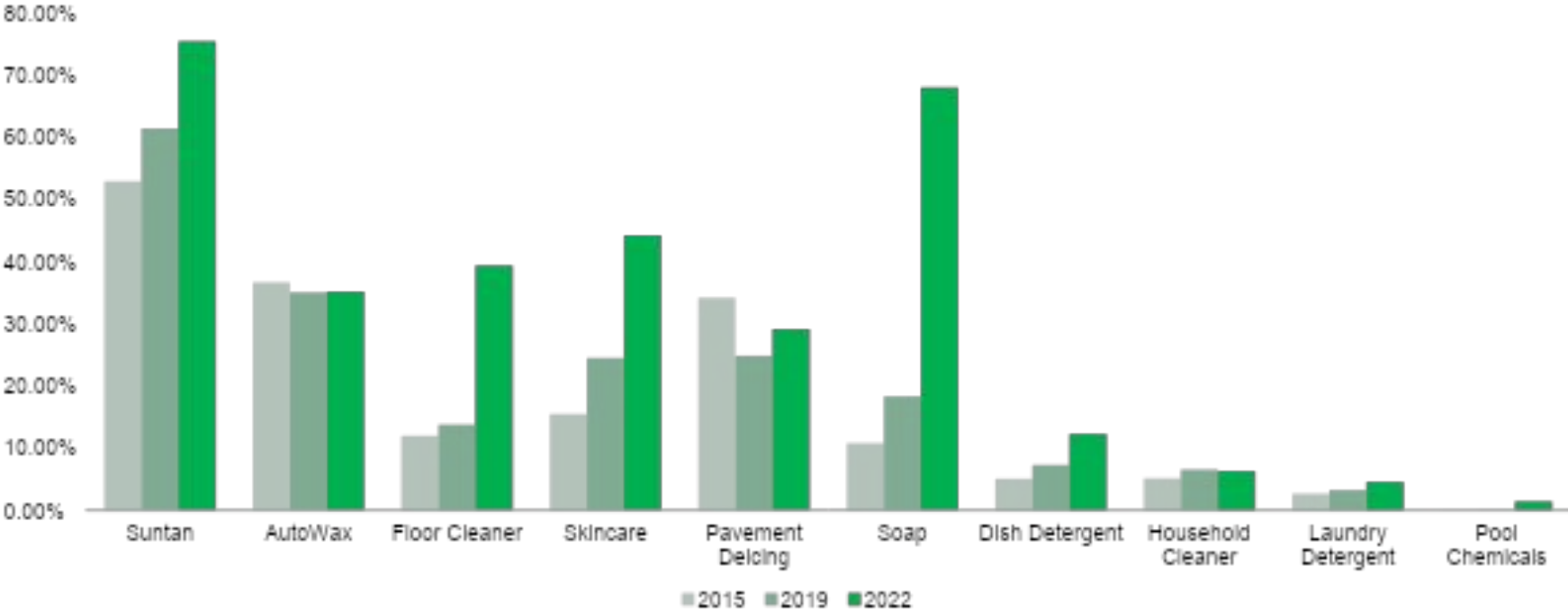
Research with Change Chemistry

Across all categories studied, green chemistry-marketed products account for 28.8% share of market (\$) in 2022, up from 14.3% in 2019.



Green Chemistry Market Share by Category

Floor Cleaner and the Personal Care categories (suntan, soap, skincare) made significant inroads from 2019 to 2022. All categories grew green chemistry shares of their respective categories, with the exception of HH Cleaner and Autowax which remained essentially flat vs 2019.



Legacy Products to Greener Chemistry; Embraced by All Demographics

- **\$3.4B** of conventionally-marketed products in 2019 have converted to greener chemistry approaches and were marked as Green Chemistry in 2022.



- **Consumers of all demographics (age, income, education) are purchasing green chemistry products. No real under-indexing by cohort.**

The Return on Sustainability Investment (ROSI™) and Decarbonization Strategies

Researchers:
Chisara Ehiemere
Elyse Douglas
Divya Chandra
Beverly Teng

Funders: Commonwealth Fund, PwC,
Investindustrial



ROSI™ Framework

Sustainability Drivers of Financial Performance and Competitive Advantage

Return on Sustainability Investment (ROSI™) Framework

Sustainability Drivers of Financial Performance & Competitive Advantage

Embed:

When companies embed sustainability risks and opportunities into their strategy and decision-making processes, they...



Improve:

- Risk Management
- Stakeholder Engagement
- Operational Efficiency
- Talent Management
- Supplier Relations
- Media Coverage
- Customer Loyalty
- Sales & Marketing
- Innovation

Drive:

- Revenue Growth
- Greater Profitability
- Higher Corporate Valuation

Deliver:

- Quantifiable Business Value & Positive Societal Impact



Center for Sustainable Business

By embedding sustainability risk and opportunities within core business strategy, the return on investment in sustainable practices can be quantified, delivering the possibility of both financial value and positive societal impact.

ROSI™ Methodology and Collaboration Process

NYU Stern
CSB works
with
company
research
partners
using a
5-Step
Methodology

1

Identify Material ESG Issues and Strategies

Identify material sustainability challenges, (referencing frameworks such as SASB and GRI) and how the business is addressing associated risks and/or opportunities

2

Assess Practices

Determine which practices have been implemented to address sustainability strategies

3

Define Benefits

Define the types of economic benefits that could be expected from the changed practices through the ROSI mediating factors

4

Quantify Benefits

Estimate the magnitude of those benefits and when they could be realized

5

Monetize

Translate the benefits into economic value, stress test, and then forecast ROI

Sustainability Drivers of
Financial Performance &
Competitive Advantage

Return on Sustainability Investment (ROSI™) Framework

Sustainability
Drivers of
Financial
Performance
& Competitive
Advantage

Embed:
When companies
embed sustainability
risks and opportunities
into their strategy
and decision-making
processes, they...

Improve:
Risk Management
Stakeholder Engagement
Operational Efficiency
Talent Management
Supplier Relations
Media Coverage
Customer Loyalty
Sales & Marketing
Innovation

Drive:
Revenue
Growth
Greater
Profitability
Higher
Corporate
Valuation

Deliver:
Quantifiable
Business Value &
Positive Social
Impact

NYU STERN
Center for
Sustainable Business

Our ROSI™ Partners

NYU Stern CSB has collaborated with corporate alliances and more than 30 research partners to date on building and implementing ROSI™



Reformation



EILEEN FISHER





Healthcare Decarbonization Research

Healthcare Delivery Systems Decarbonization Research

CSB developed a decarbonization framework for healthcare delivery systems utilizing the Return on Sustainability Investment (ROSI™) Framework and Methodology to address the 8.5% of total U.S. GHG emissions that come from Healthcare. The project produced the following:

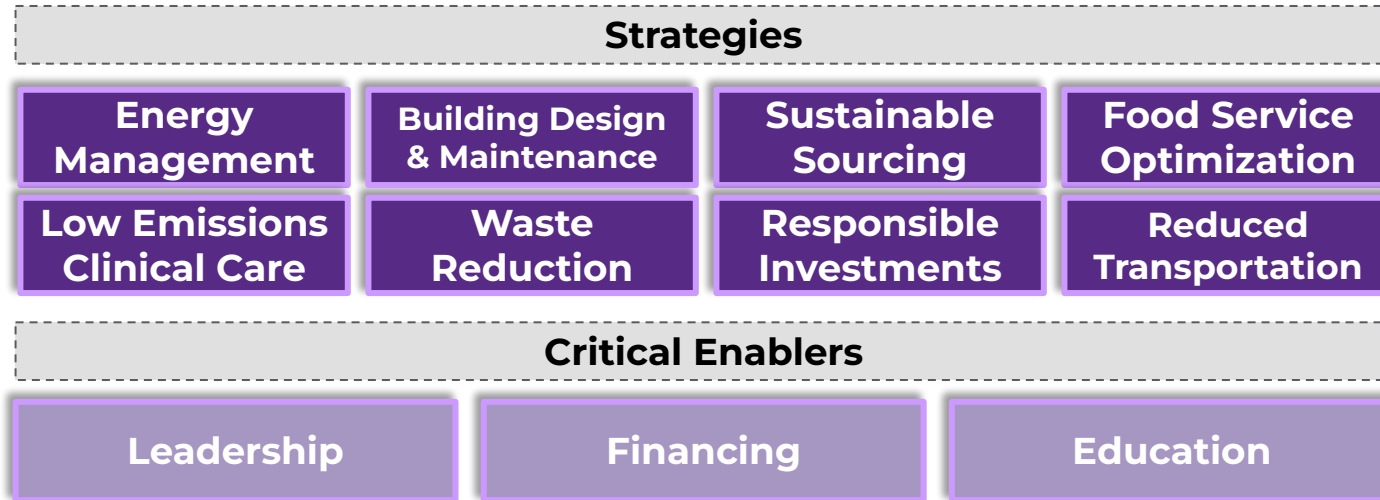
1. A **strategy map and monetization framework** to support Decarbonization in Healthcare Delivery Systems including new research and analysis to aid in **increasing the rate of adoption of decarbonization practices by highlighting the financial implications** of the tangible and intangible benefits and prioritizing these in matrices
2. **Open source tools** that hospitals of all sizes can use for calculations for a subset of decarbonization practices
3. **Case studies** that highlight some of the monetization processes for a subset of decarbonization practices



The
Commonwealth
Fund

Decarbonization Framework

CSB identified the **following decarbonization strategies and enablers** that are being used by Healthcare Delivery Systems and developed monetization metrics and tools to support the strategies:



Decarbonization Framework - Critical Enablers

These three enablers help Healthcare Delivery Systems speed the adoption of decarbonization practices and ensure that they are maintained over time

Leadership	Financing	Education
<ul style="list-style-type: none">● Setting decarbonizing goals¹● Creating a decarbonization team focused on delivery of goals● Completing an emissions inventory and defining a baseline year²	<ul style="list-style-type: none">● When starting small, create a revolving fund from savings from practices with short payback periods● Green carbon fund / gain sharing● Inflation Reduction Act - apply soon to secure maximum funding^{3,4}● State utility incentives including financial rebates, design assistance etc.	<ul style="list-style-type: none">● Develop in-house education programs for hospital executives and staff to raise awareness● Support ongoing clinical staff education on lower carbon practices● Reinforce behavior changes through training

¹ [NAM's Key Actions on Decarbonization](#) (NAM, 2023)

² [Carbon Accounting](#) (NAM, 2023)

³ [Summary of Inflation Reduction Act provisions related to renewable energy](#) (EPA, 2023)

⁴ [FACT SHEET: Four Ways the Inflation Reduction Act's Tax Incentives Will Support Building an Equitable Clean Energy Economy](#) (US Department of Treasury, 2022)

Summary of Findings: ROSI™ Deep Dive Projects

CSB found emission reduction, operational efficiency and risk management benefits

Decarbonization Strategies: Energy Management and Building Design & Maintenance



Energy retrofits could yield \$35k or \$1 per sq.ft in annual benefits

Designing buildings to be net zero could yield \$66k or \$2 per sq.ft in annual benefits. Potential to reduce emissions by 72% compared to a standard efficiency building*

*Standard efficiency building that meets ASHRAE code compliance

Decarbonization Strategy: Sustainable Sourcing (Reprocessing)

Switching single use devices with reprocessed devices could yield \$3.5M in annual benefits with an average annual cost of \$87K to run the program

Sustainability programs were found to positively influence employee engagement



 Advocate Health Care™

Decarbonization Strategy: Transportation



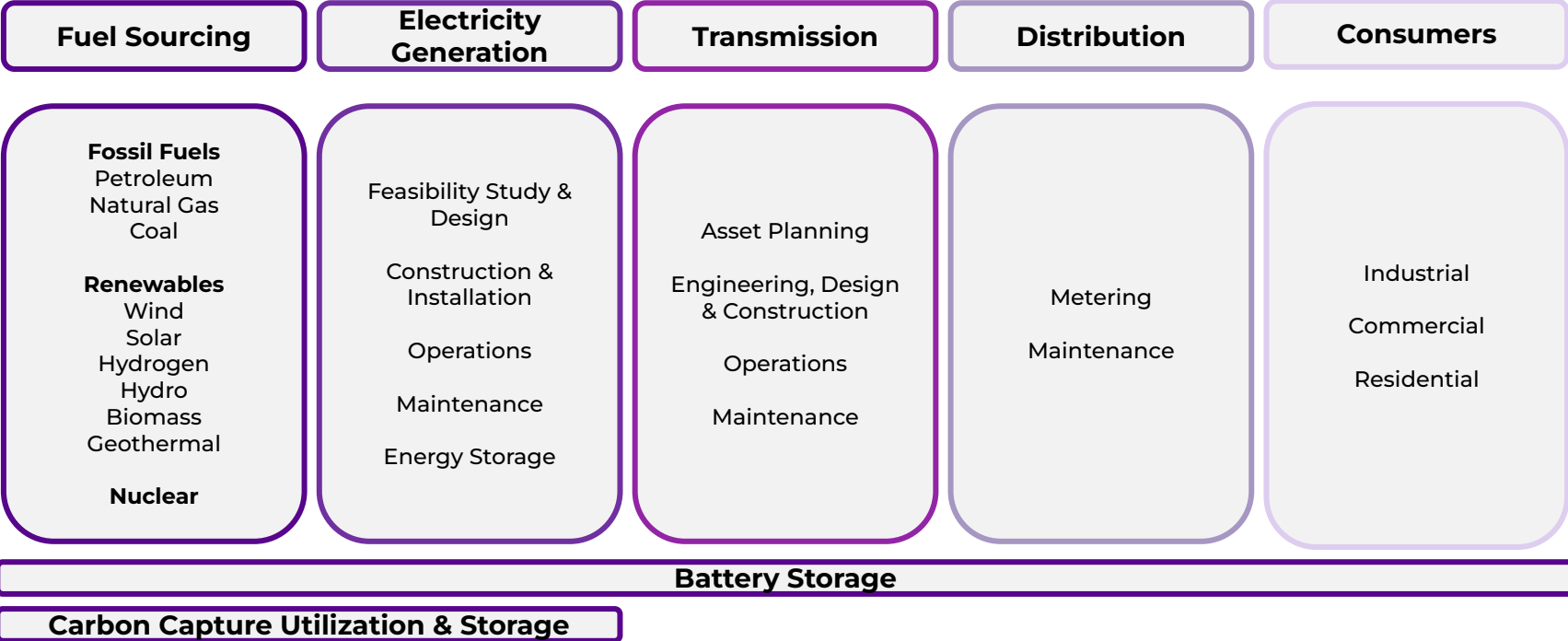
Reducing the number of last mile pharmaceutical deliveries can yield \$254k in average annual savings for a supply chain partner

Energy Decarbonization



Initial Project Scoping with PwC Partnership

Electrical Energy Value Chain



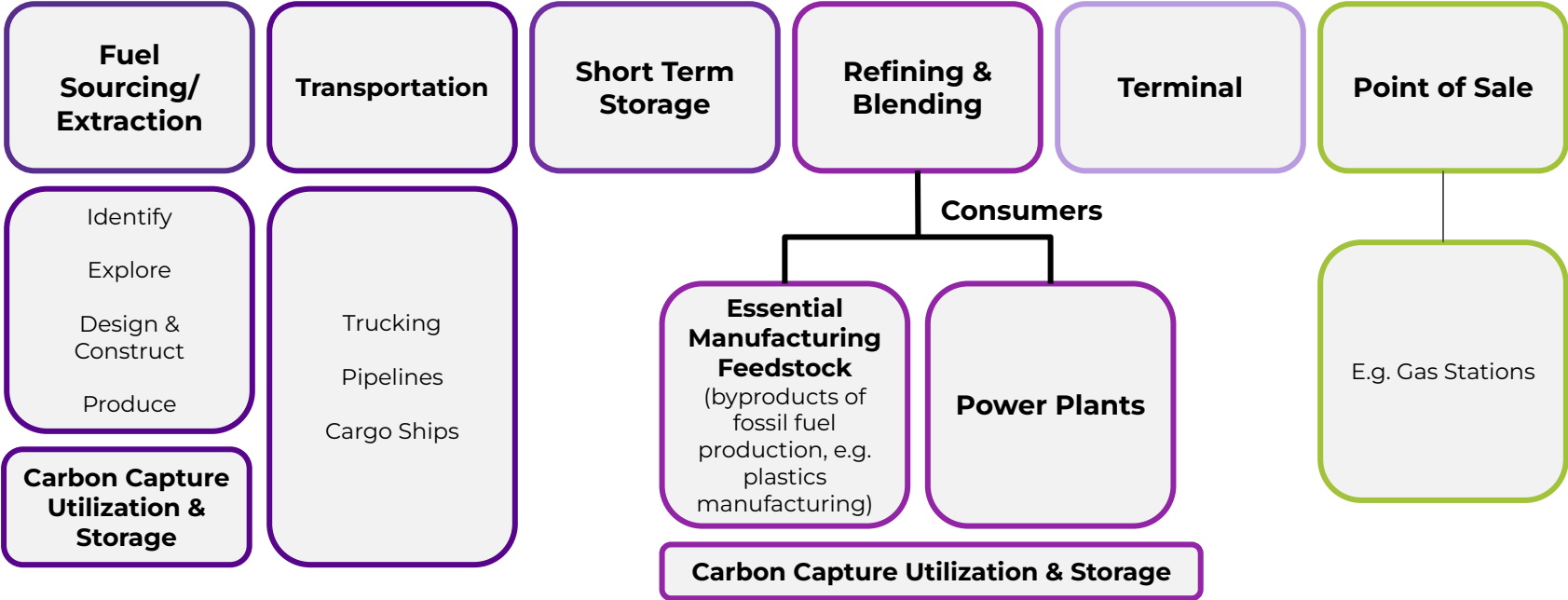
Adapted from (Bamber, Guinn, & Gereffi, 2014)

Preliminary Decarbonization Practices in Wind & Solar

Fuel Type	Approach	Value Chain						
		Fuel Sourcing/ Extraction	Electricity Generation	Battery Storage	Transmission	Distribution	End User (Industrial, Commercial and Residential)	
Wind & Solar	Reduce	Address issues on intermittency and reliability of wind and solar generation through planning and investment					Implement and monitor demand response programs	
		Install generation close to where the wind and/or solar assets are located	Improve battery storage technology to ensure that the renewable energy generated is stored, and used to the maximum extent possible					
						Improve grid interconnection and two way flow to ensure that the renewable energy generated is effectively transmitted back and forth		
								Leverage PPAs to support the development/ongoing existence of renewable projects

Initial Project Scoping

Oil & Gas Value Chain



Adapted from [American Petroleum Institute](#)

Preliminary Decarbonization Practices in Oil & Gas

Fuel Type	Approach	Oil & Gas Value Chain				
		Fuel Extraction	Short term Storage	Transportation	Refining & Blending	Terminal
Oil & Gas	Reduce	Reduce emissions from flaring/venting/blowdowns by upgrading key equipment, improving maintenance, and recapturing fugitive methane				
		Reduce leaking by upgrading key equipment/replacing leaky equipment (incl. pipelines), improving maintenance, installing digitized monitoring systems, and etc.				
				Expand the use of low-emission fuel sources (e.g. hydrogen) in refineries		
	Invest in energy efficient equipment to increase operational efficiency and reduce amount of energy consumed across each segment of the value chain					
		Invest in training/retraining of workers in other low or no emission technologies such as geothermal				
Reuse					Retrofit decommissioned refinery assets to be able to produce different, lower carbon forms of energy and fuel (e.g. renewable diesel, sustainable aviation fuel - SAF)	
Remove		Utilize CCUS technology (e.g. reinjection, carbon scrubbers, direct air capture) to remove excess carbon emissions				

Emissions are a quantifiable financial problem. Not just a planetary one.

Investors Are Punishing Polluters

A study of 16,000 equities over 4 years found that higher GHG emissions mean a lower P/E ratio — from a 3% - 8% penalty.

Bloomberg, 2021

NYU and **Valutus** are working on a tool to quantify the cost of inaction – and the value of leadership.

Quantifying Value at Risk from GHG Emissions

The vCO2™ Tool

Powered by Valutus

Instructions

Enter the information on each screen (or accept the default values), then click Next.

Tips

If you don't know the exact numbers for something use the default and/or try a few estimates to see if changes make a difference in the final result.

If you are unsure what a term means, try hovering over it. Many terms have popup explanations built in.

GHG Emissions Risk: Company Economics

Total Customer Spend (Key Product Categories)	40,000,000,000
Market Share of Spend (Key Product Categories)	12.5%
Revenue (Key Product Categories)	5,000,000,000
Industry	Food & Beverage
Fraction of Customers Using GHG Emissions in Buying Decisions	<input type="text"/>

Emissions (Tons CO2e)	330,000,000
Target Reduction by 2030	<input type="range"/>
Carbon Intensity (Tons GHGe / \$000 Revenue)	440
Average Carbon Intensity (Tons GHGe / \$000 Revenue)	400
Average 2030 Reduction Target for Electronics & High Tech (manufacturing) Industry	50%
Market Value Change from P/E Change	-1,125,000,000
Change in Revenue from GHG Targets	-80,518,857

Responsible Investing with Private Equity

Tensie Whelan
Julien Marchese
Jessica Weiss

Support from Arthur D Little,
ClimateWorks
Foundation, BSR, Fulcrum
Consulting



Sustainability Drives Value Creation – If Done Right

Conventional approach to ESG:

- DD – Look for red flags
- Holding period – Identify material ESG issues; determine ESG reporting metrics

Embedded sustainability approach:

- Understand the material issues, strategies, practices and value drivers for the specific material issue
- Prioritize based on upsides/downsides and level of effort/investment required
- Track sustainability and ROSI KPIs

In the first stage of the tool, users input the sector of the target portfolio company and rate it across key criteria

1 Identify Target & Sector

Identify sector of target company

After selection of sector, the tool **identifies the most relevant material issues for the sector**, then **indicates mitigating or value-adding strategies, and underlying practices and value drivers**

2 Auto-Populated Buckets

Material Issues (Defined by SASB)

- Energy Management

Strategies

- Improving Energy Efficiency & Use of Renewables

Practices

- Adopt products, services, and processes that use less energy
- Convert energy purchase (or generation) to renewables where possible

Value Drivers

- Lower energy costs
- Reduced exposure to energy cost volatility or grid break-downs
- Reduced regulatory fines and risks.

3 Assessment of Target Company

Next, identify **how the target company is responding to the material issues and related strategies, stated commitments, and progress towards commitments**

4 Rating

Finally, **add scores of 1-5 across five criteria**

Current Progress

Clear Targets

Innovation & Growth

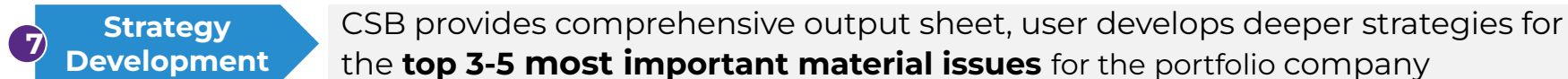
Risk Mitigation

Credible Reporting Standards

The second stage prioritizes the most important material issues & strategies and provides guidance on KPI development



Once the GP owns the target, **they need to prioritize the top 3-5 most important material issues** with the greatest financial upside; **they also need a better sense of the impact of each material issue in the context to the broader market**



Over time, **the GP tracks KPI improvement, thus creating a track record of sustainable improvement and a growth story to be shared at exit**

Note: The second stage of the value framework tool is intended to be used once the portfolio company has been acquired, in the first 100 days of the holding period, in order to improve value

NYU Stern CSB GP Value Driver Tool

Case Study:
Commercial Building Products Manufacturer

March 2024

FULCRUM
CONSULTING
GROUP

TRANSACTION + GROWTH ADVISORS

Signatory of
 Principles for
Responsible
Investment

Fulcrum developed a case study using commercial due diligence data for a manufacturer of commercial building products



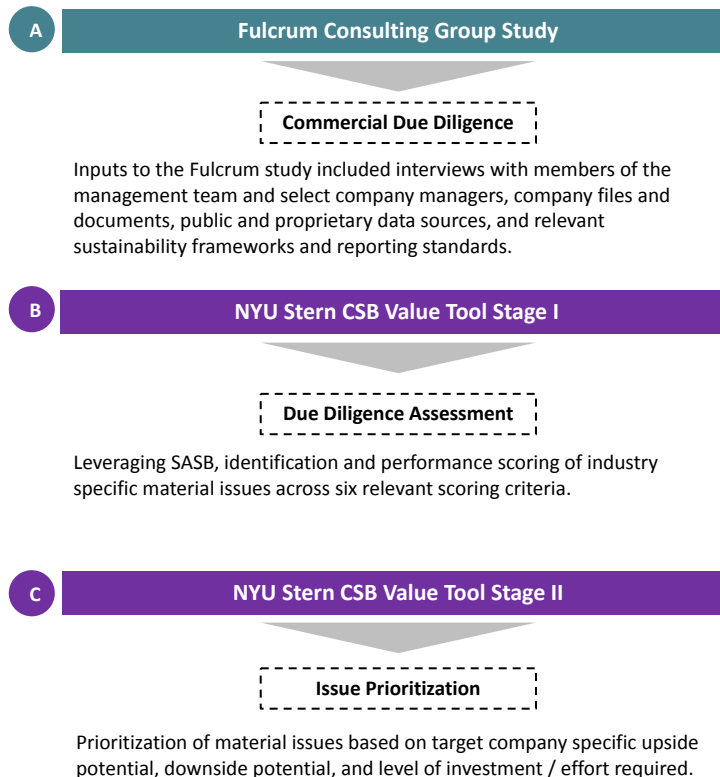
- On behalf of a private equity client, Fulcrum completed an ESG due diligence assessment conducted in parallel to a broader market and voice of the customer study. The target was a manufacturer of commercial building products.



Center for Sustainable Business

- Fulcrum leveraged redacted company data from its prior study to evaluate NYU stern CSB's two-part tool.
- The tool is intended to be used first during the **due diligence phase** to gain a high-level assessment of ESG-related risks and opportunities that can drive improved financial performance, then in the **early holding period** for material issue prioritization and strategy and KPI development, culminating in strategic inputs and ESG and ROSI (aligned financial metrics) KPIs that can be used to monitor and improve performance during the life of the investment.

Source: Stern CSB Value Framework, FCG Research



C Given finite resources, CSB’s tool aids consideration of upside potential, downside potential, and level of investment required

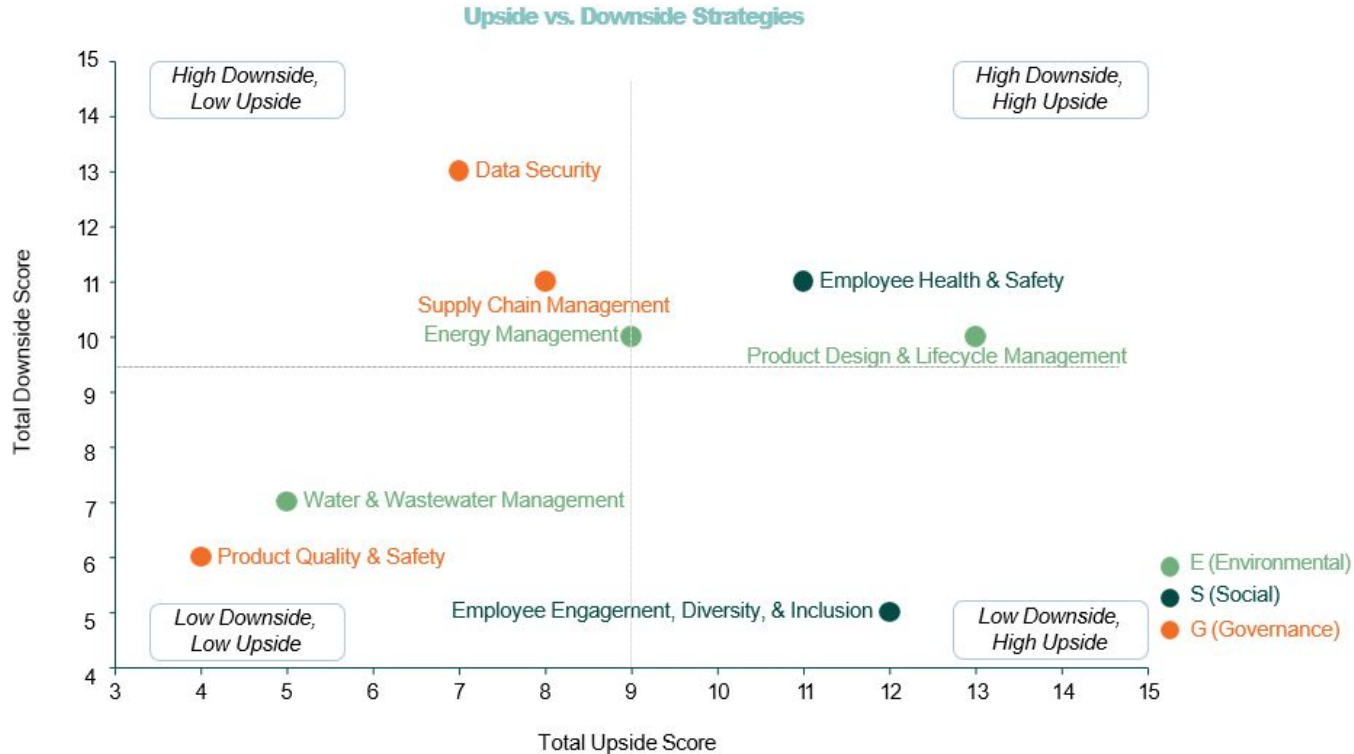
Issue Prioritization – Manufacturer of Commercial Building Products

Material Issues	Score	Investment / Effort	Downside				Upside		
			Market Risk	Regulatory Risk	Environmental Risk	Geopolitical Risk	Revenue Growth Potential	Operational Efficiency	Reputation of Target
Product Design & Lifecycle Management	23 (10 Downside 13 Upside)	5	4	3	2	1	5	3	5
Employee Health & Safety	22 (11 Downside 11 Upside)	5	4	5	1	1	2	5	4
Data Security	20 (13 Downside 7 Upside)	3	5	4	1	3	2	3	2
Energy Management	19 (10 Downside 9 Upside)	2	3	2	4	1	3	3	3
Supply Chain Management	19 (11 Downside 8 Upside)	1	4	3	2	2	3	3	2
Employee Engagement, Diversity, & Inclusion	17 (5 Downside 12 Upside)	3	1	2	1	1	4	4	4
Water & Wastewater Management	12 (7 Downside 5 Upside)	4	1	2	3	1	1	2	2
Product Quality & Safety	10 (6 Downside 4 Upside)	2	1	2	2	1	1	2	1

Note: Downside: 1 = most attractive (minimal risk) and 5 = least attractive (significant risk). Upside: 1 = least attractive (minimal opportunity), 5 = most attractive (significant opportunity). Investment / effort required for successful execution: 1 = least attractive (significant effort), 5 = most attractive (minimal effort).

Source: Stern CSB Value Framework, FCG Analysis

C CSB's tool accurately identifies quick wins when provided high-quality data and interpreted within the commercial context of the business



Note: Downside: 1 = most attractive (minimal risk) and 5 = least attractive (significant risk). Upside: 1 = least attractive (minimal opportunity), 5 = most attractive (significant opportunity). Investment / effort required for successful execution: 1 = least attractive (significant effort), 5 = most attractive (minimal effort).

Source: Stern CSB Value Framework, FCG Analysis

- C** CSB's tool accurately identifies quick wins when provided high-quality data and interpreted within the commercial context of the business

- A** **Product Design & Lifecycle Management**

Significant Upside Opportunity + Minimal Investment = High Priority Quick Win

- Target company offered a product with superior energy efficiency performance vs. competitors
- Despite outperformance, customer awareness captured during commercial due diligence (CDD) interviews was mixed
- Embedding ESG analysis within CDD context revealed performance-perception mismatch
- Material market share gains achievable by addressing communications gap (low effort / investment)

Employee Health & Safety

Significant Risk Mitigation Potential + Minimal Investment = High Priority Quick Win

- Developed custom benchmarks to analyze target company's historical workplace injury rates
- Although the target company outperformed on some metrics (e.g., TRIR), severity of injuries had increased since 2019
- Regularly scheduled plant safety trainings, previously hosted by a staffing partner, ceased in 2020 due to COVID-19
- Improved proactive safety measures, including resumption of briefings, were recommended (low effort / investment)

Source: FCG Research & Analysis

Next Steps

BSR Pro Bono Engagement

- Five PE firms engaged with BSR to test the tool
- Learnings will be documented for improvements
- Cases will be developed for other PE firms

ADL and Fulcrum Pro Bono





















- ADL ready to take on 3-5 pro bono clients in 2024
- Fulcrum ready to take on 2-3 pro bono clients in 2024
- Same conditions as with BSR

Invest NYC SDG: Private/Public Partnerships for a Sustainable, Equitable NYC

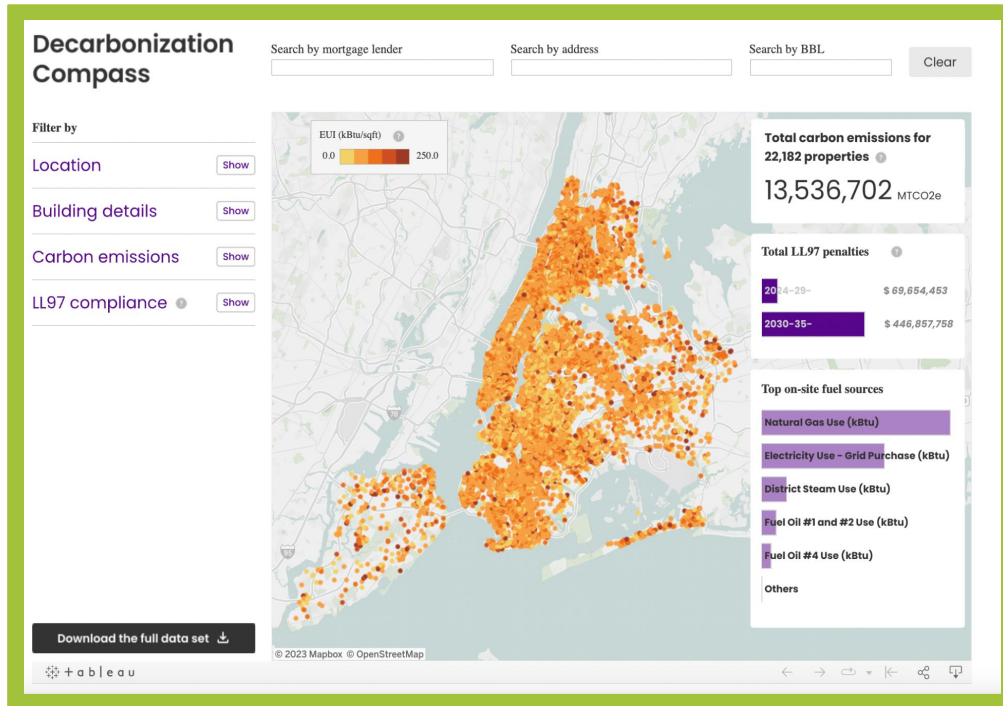
Marianna Koval
Kendra Gibbs
Sophie Rifkin
Anne-Laure White



Developing Concrete Projects Across Six Ecosystems

ECOSYSTEM	Food & Health	Sustainable Mobility	Built Environment	Waste	Renewable Energy	Climate Resilience
PROJECTS	M.A.P. NYC Healthy Corner Stores Rikers Island Indoor Commercial Farm FoodMap NY	The Equitable Commute Project electric vehicles/barges and EV infrastructure last-mile delivery	The Decarbonization Compass: LL97 Data Tool green workforce development and placement	organic waste collection and processing anaerobic digesters glass waste to low carbon concrete with Pozzotive	community solar on city-owned property geothermal offshore wind	early warning and predictive AI systems
SDGs	 2 ZERO HUNGER  3 GOOD HEALTH AND WELL-BEING  11 SUSTAINABLE CITIES AND COMMUNITIES  12 RESPONSIBLE CONSUMPTION AND PRODUCTION	 8 DECENT WORK AND ECONOMIC GROWTH  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  13 CLIMATE ACTION	 4 QUALITY EDUCATION  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  13 CLIMATE ACTION	 6 CLEAN WATER AND SANITATION  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  12 RESPONSIBLE CONSUMPTION AND PRODUCTION	 7 AFFORDABLE AND CLEAN ENERGY  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  13 CLIMATE ACTION	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  13 CLIMATE ACTION  17 PARTNERSHIPS FOR THE GOALS

Decarbonization Compass: Unlocking and Helping Prioritize Financing for NYC Building Retrofits



A New and Improved Tool

For Banks & Mortgage Lenders
Search by mortgage holder to view aggregated and individual emissions data for properties in your portfolio and gain insights for where to prioritize decarbonization.

For Policymakers & Retrofit Advocates
Search by compliance pathway or energy grade to get a comprehensive view of the carbon footprint of building categories over time and regulatory change.

For Building Professionals
Search by neighborhood, address, or building use to see emissions and financing details for buildings subject to LL97 and discover potential retrofit opportunities.

Example Search: Major National Bank with Significant LL97 NYC Portfolio



Decarbonization Compass

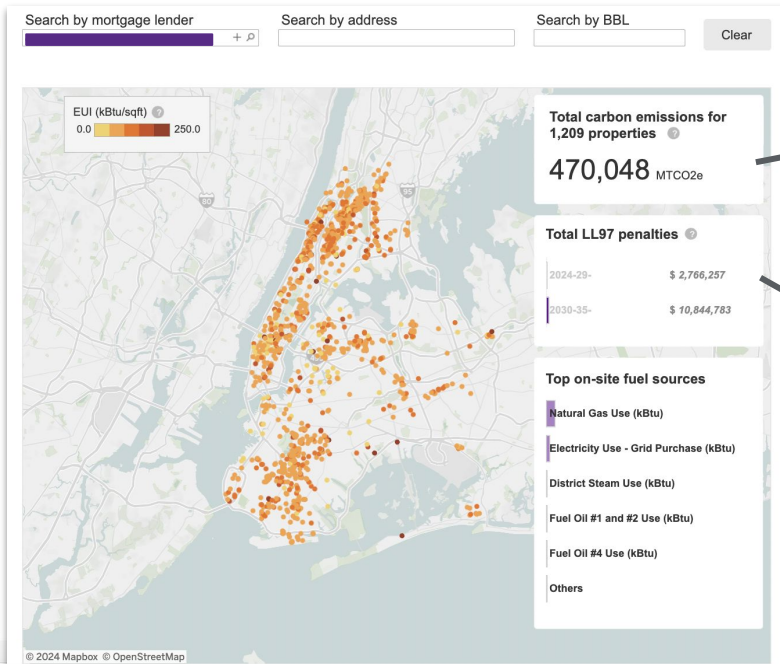
Filter by

Location [Show](#)

Building details [Show](#)

Carbon emissions [Show](#)

LL97 compliance [Show](#)



1,209 properties subject to LL97; contributing 470,048 MTCO₂ per year

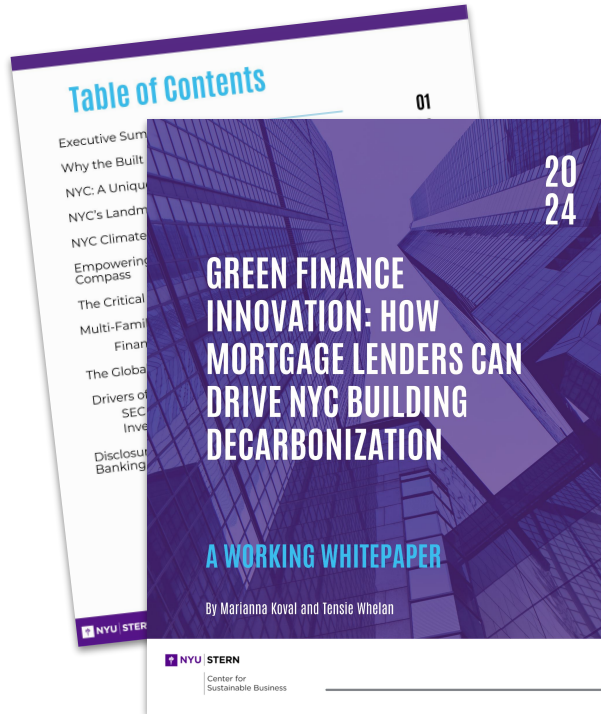
Aggregate portfolio fines per year = \$10.8M beginning in 2030 and increasing

76% of the carbon emissions come from multifamily properties

Green Finance Innovation: How Mortgage Lenders Can Drive NYC Building Decarbonization



Coming soon...



- **Buildings are the largest source of carbon emissions in NYC – nearly 70%.** To achieve the City’s net-zero carbon goal by 2050, it’s essential to shrink the carbon footprint of the city’s one million buildings.
- NYC’s largest banks and mortgage lenders can play a pivotal role, providing green financing to their borrowers for decarbonization, while enhancing their own portfolios and reducing their own Scope 3 carbon emissions.
- Growing evidence shows that **green buildings are lower-risk investments, commanding higher valuations, costing less to run and reducing defaults, and providing greater resiliency** to the depreciation rate of energy inefficient buildings.
- The banking industry in the European Union and the UK provide green financing models for the US. Lenders can collaborate with building owners to provide strategic financing for energy-efficient retrofits and clean energy projects, making buildings in NYC greener and more profitable.

NYU Stern-NYCEDC Task Force Launched To Mobilize Building Decarbonization Financing



The City of New York estimates that roughly 15,000 buildings will need a **\$12-15 billion investment** to comply with 2030 LL97 emissions limits, at current costs and with current technology.

CSB, along with the NYU Stern Chen Institute for Global Real Estate Finance and the NYC Economic Development Corporation (NYCEDC), launched a six month task force in January 2024 with representatives from more than a twenty institutional lenders, property owners, government agencies, and industry associations.

The Goal: create a playbook, analyzing existing financing and incentives, identifying the product gaps, and recommending low hanging fruit measures, as well as any silver bullets to spur capital deployment for building decarbonization.



Center for
Sustainable Business

C. H. Chen Institute for
Global Real Estate Finance

Invest NYC SDG's FoodMap NY: Supporting Food Security with Private-Sector Engagement and Investment

Lack of access to healthy food is the leading cause of poor health in the United States. Examining sectors across the NYS food value chain, research identified six general strategies for private sector engagement and investment that can support greater food security, and seven pilot projects will be announced in June:

Food as Medicine

Controlled Environment Agriculture

Healthy Food in Retail Environments

Supply Chain and Infrastructure

Food and Nutrition Assistance Programs

Food Finance



Mother Cabrini
HEALTH FOUNDATION



Cornell
SC Johnson College of Business

Center for Sustainable Global Enterprise

Food Finance: Capitalizing Enterprises Focused on Healthy, Affordable, Accessible Food for all New Yorkers



Defining a private sector role: Supporting food security is not exclusively the role of government and philanthropy; the private sector can provide critical capital and create greater access to healthy, affordable food for all New Yorkers, while also supporting economic development with quality employment across the NYS food value chain.

Mobilizing capital: The private sector can help meet the needs of farms and food enterprises committed to creating healthy, affordable food access in NYS, supporting innovative business models, which carve out unique mission-driven positions in the complex U.S. food, food assistance, and healthcare systems.

Building collaboration and educating key stakeholders: NYU Stern CSB will host an April 11, 2024, convening with the Federal Reserve Bank of New York, bringing together a select group of enterprises, foundations, impact investors, and NGO/community organizations already active in this space to discuss strategies to create and capitalize enterprises that increase equitable access to healthy, affordable food.



Mother Cabrini
HEALTH FOUNDATION



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Other CSB Resources for Practitioners



“Does it pay to be sustainable?” is an enduring, and evolving, question for managers, investors, and researchers.

In 2019-2020 we surveyed 1000+ studies on the ESG-financial performance association.

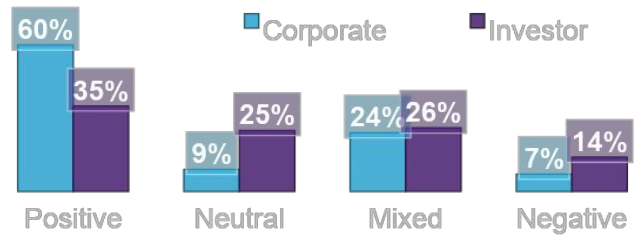
- Original finding: Strong evidence (stat. sig.) that **positive results dominate for corporate/management studies** but **neutral or mixed for finance papers**.
- The topic of climate finance appeared in the top finance journals only in 2020.

Follow-up study after five years is in the planning stage

- Dramatic changes in the regulatory and business landscape re ESG since 2019.
- Did our propositions bear out? Can ML/AI models make sense of the overwhelming number of papers? Are there new findings?
- If you have comments or suggestions, please email: ua6@stern.nyu.edu

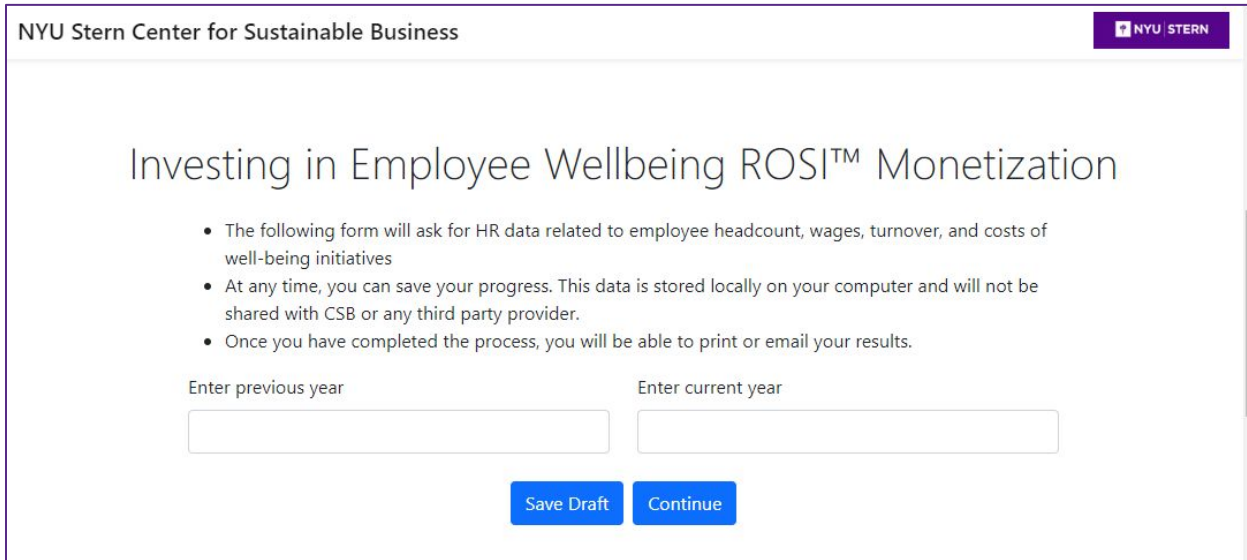



Great uptake, e.g. mentioned in [McKinsey Quarterly](#) · [KPMG](#) · [Deloitte](#) · [Financial Times](#) · [Forbes](#) · [Fast Company](#) · [Investor Daily](#) · [IR Magazine](#) · [Responsible Investor](#)



ROSI™ Employee Wellbeing Monetization Tool

The **ROSI™ Employee Wellbeing Monetization Tool** leverages our Return on Sustainability Investment methodology, CSB's portfolio of client work across various industries, and academic research to monetize companies' investments in employee well-being strategies.



NYU Stern Center for Sustainable Business 

Investing in Employee Wellbeing ROSI™ Monetization

- The following form will ask for HR data related to employee headcount, wages, turnover, and costs of well-being initiatives
- At any time, you can save your progress. This data is stored locally on your computer and will not be shared with CSB or any third party provider.
- Once you have completed the process, you will be able to print or email your results.

Enter previous year

Enter current year

[Save Draft](#) [Continue](#)



**View
here!**

Inputs

NYU Stern Center for Sustainable Business

Investing in Employee Wellbeing ROSI™ Monetization

Headcount

	Year: 2023	Year: 2024
Total Headcount: ①	<input type="text" value="Enter employee count"/>	<input type="text" value="Enter employee count"/>
Headquarters: ①	<input type="text" value="Enter employee percenta"/> %	<input type="text" value="Enter employee percenta"/> %
Other Location(Retail, Plant, etc.): ①	<input type="text" value="Enter employee percenta"/> %	<input type="text" value="Enter employee percenta"/> %

Hourly Wage

Hours Worked

Total Annual Turnover

Industry Average Turnover

HR data related to:

- Employee headcount, wages
- Turnover
- Hiring costs
- Productivity
- Cost of well-being initiatives

Monetization Outputs

NYU Stern Center for Sustainable Business

ROSI™ Monetization Output

Annual Salary Per Employee

#	Year: 2023	Year: 2024
Headquarters	<input type="text" value="\$"/>	<input type="text" value="\$"/>
Other Location (Retail, Plant, etc.)	<input type="text" value="\$"/>	<input type="text" value="\$"/>

Cost of Hiring & Turnover

Productivity

Cost of Direct Employee Well-being Initiatives

Year: 2023 Estimated Cost Savings \$

Year: 2024 Estimated Cost Savings \$

- Annual salary per employee
- Cost of hiring & turnover
- Productivity
- Cost of direct employee well-being initiatives
- Estimated cost savings per year

ROSI™ Research Database (UPDATE)

The **ROSI™ Research Database** was initially created as part of a research project funded by Rockefeller Capital Management to examine 1000+ academic papers published between 2015-2020 exploring the relationship between sustainability and financial performance.

This updated database now includes **400+ papers or reports** investigating the relationship between sustainability and financial performance!



**View
here!**

ROSI Methodology | ROSI Research Database Ver. 2 | License

NYU | STERN Center for Sustainable Business

ROSI™ (RETURN ON SUSTAINABILITY INVESTMENT) METHODOLOGY

METHODOLOGY
NYU Stern CSB's ROSI™ (Return on Sustainability Investment) methodology is designed to be a simple yet comprehensive process that monetizes material sustainability strategies and the practices resulting from those strategies.

When companies embed sustainability, this influences a suite of mediating factors that drive financial benefits for businesses and society, which can be quantified and monetized.

DATABASE CRITERIA
Papers within the ROSI™ Research Database currently follow the criteria listed below:

1. Discuss financial performance
2. Have sustainability or ESG components
3. A majority include an analysis of more than one company or fund
4. Published within the 2004-2020 time period, with a majority within 2015-2020

Sustainability Drivers of Financial Performance and Competitive Advantage

When a company embeds sustainability in its strategy and practice, it...

Improves:

- Customer Loyalty
- Employee Retention
- Innovation
- Media Coverage
- Operational Efficiency
- Risk Management
- Sales & Marketing
- Supplier Relations
- Stakeholder Engagement

Drives:

- Greater Profitability
- Higher Corporate Valuation
- Lower Cost of Capital

Delivers:

- Short- and Long-Term Value Creation for Stakeholders and Society

NYU | STERN Center for Sustainable Business

GO TO ROSI DATABASE



How to Embed Sustainability Core to Business Strategy and Drive Competitive Advantage



Fill out the interest form for this **new asynchronous course** and you will receive an email notification with access instructions

Recent Publications



What We Measure Today Does Not Matter When It Comes to Jobs



Financing Mechanisms to Support Sustainable Practices



Effective Sustainability Communications: A Best Practice Guide for Brands & Marketers



Gore Mutual Insurance Company: Building Resilience in the Eye of the Storm

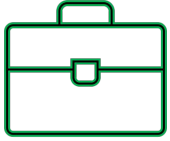


Global Change Begins at Home: Advancing the UN Sustainable Development Goals in NYC



Green Finance Innovation: How Mortgage Lenders Can Drive NYC Building Decarbonization

Get Involved with CSB



Learn more and stay up-to-date about CSB educational programs, ROSI Methodology and other original research, career resources and events.
www.stern.nyu.edu/sustainability



Support CSB to ensure the continuation of our education, career development, research and outreach initiatives. CSB is grateful to raise all of our own operating and research funds from alumni and other supporters.
<https://bit.ly/supportcsb>



Reach out to CSB if you are interested in learning more about educational programs, partnership opportunities, working with current students, or just to introduce yourself!
sustainablebusiness@stern.nyu.edu



Follow us, tag us and join the conversation on LinkedIn at NYU Stern Center for Sustainable Business

Questions?



Sustainable Market Share Index™



RANDI KRONTHAL-SACCO

Senior Scholar
NYU Stern CSB



Sustainable Market Share Index™ 2023 Report



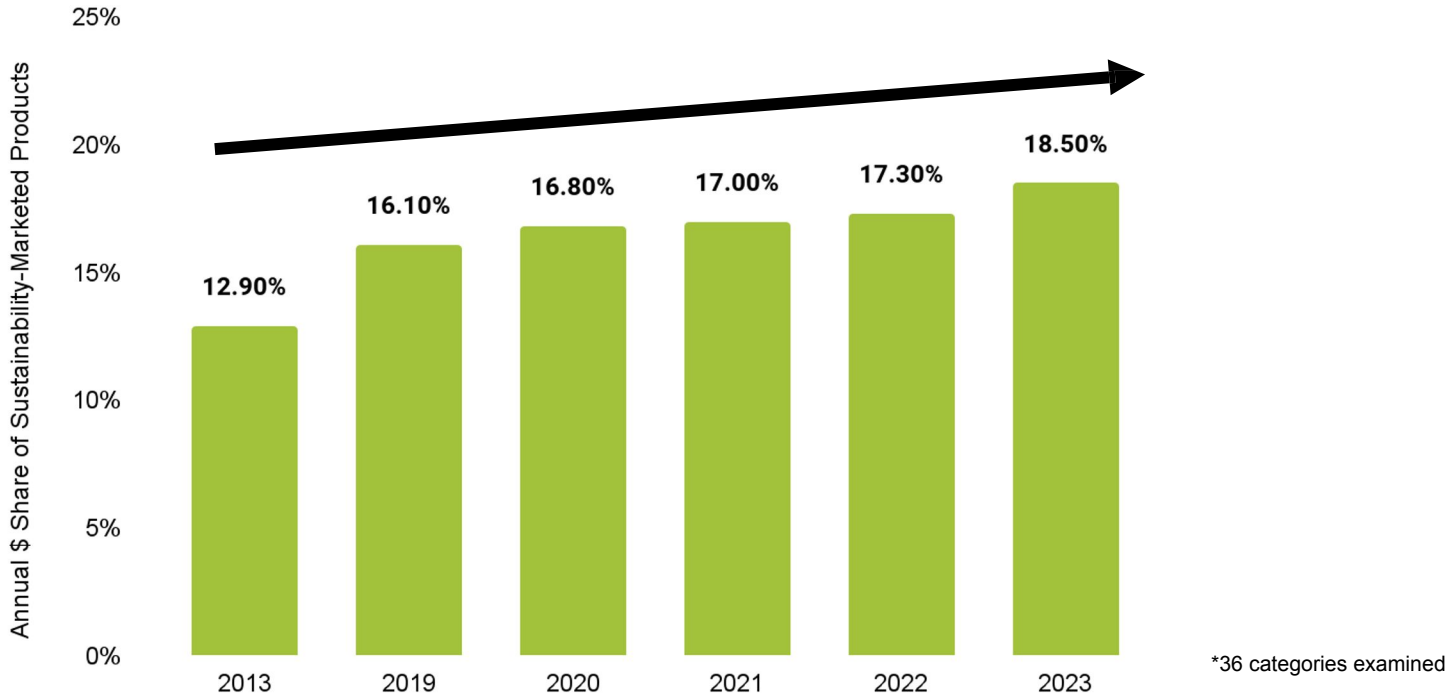
Sustainable Market Share Index™: Methodology

- Partnered with Circana (formerly IRI) to access Point of Sale (POS) data
- POS data examined to date:
 - 36 categories; 40% of total U.S. dollars volume, excluding alcohol and tobacco
 - 11 years: January 2013 through December 2023
 - Reviewed over 250,000 products
- Identified all SKUs for each category marketed as sustainable with on-package communication (e.g., third-party certification, USDA Organic, no phosphates, plant-based, no-phthalates, FSC)

All estimates and analysis in this paper based on Circana data are by the authors and not by Circana

Sustainable Market Share Index™: 2023 Market Share

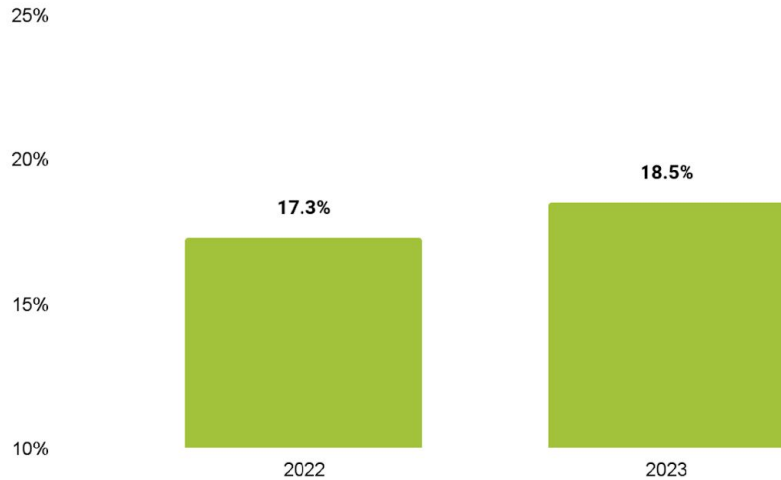
Sustainability-marketed products continues to **grow share***



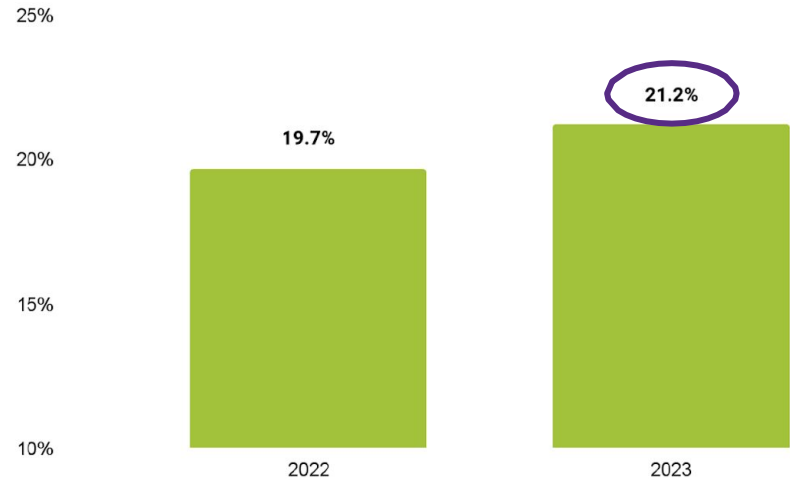
Sustainable Market Share Index™: Private Label

The share of sustainability marketed products **excluding private label** is **21.2%. +1.5ppts** vs YAG

With Private Label



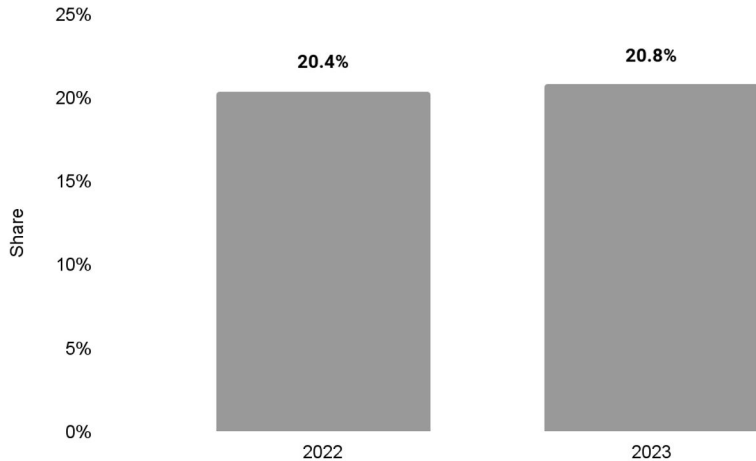
Without Private Label



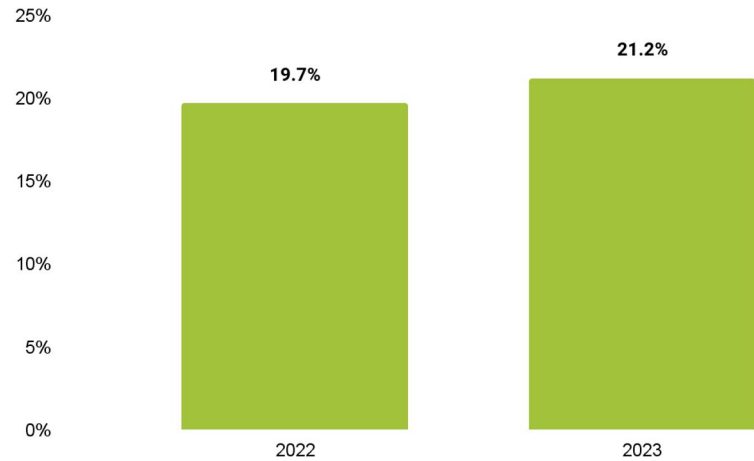
Sustainable Market Share Index™: Store Brands

Store Brand share of market was 20.8%, up +0.4ppts from 2022 to 2023 suggesting that branded **sustainable products** are **more insulated** from inflation-driven moves to store brands and changes by brands to more sustainable options

Private Label: CPG*



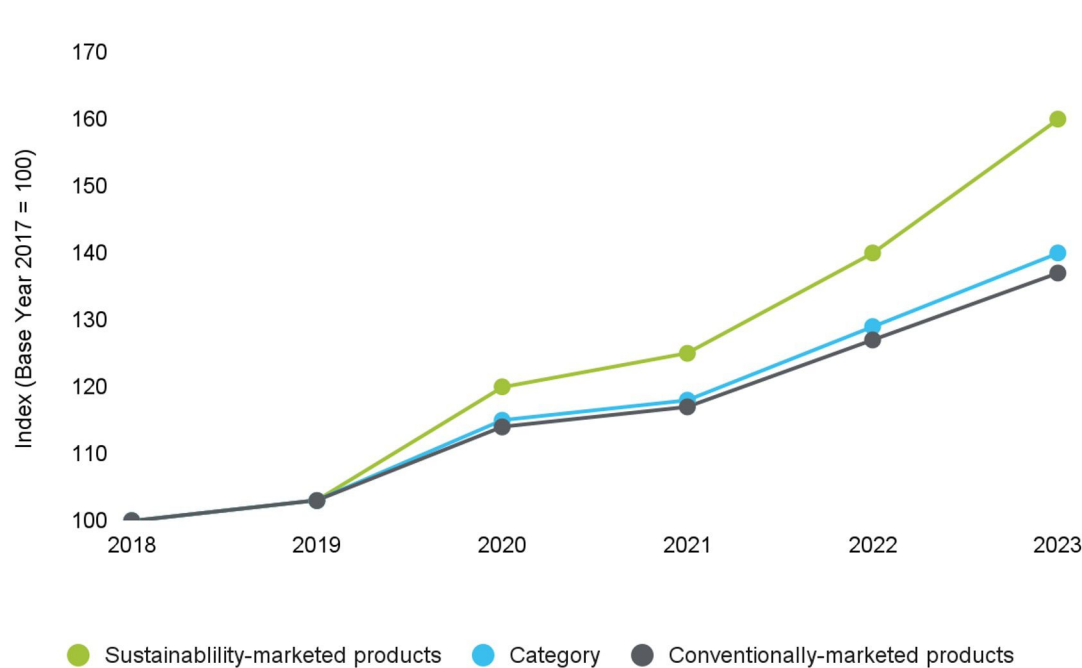
Sustainable Market Share**



* From IRI private label report
**36 categories examined, excluding private label

Sustainable Market Share Index™: Growth Rate

Sustainability-marketed products grew **at ~10% 5-YR CAGR**



Sustainability-marketed
5-YR CAGR:

9.9%

Total Market
5-YR CAGR:

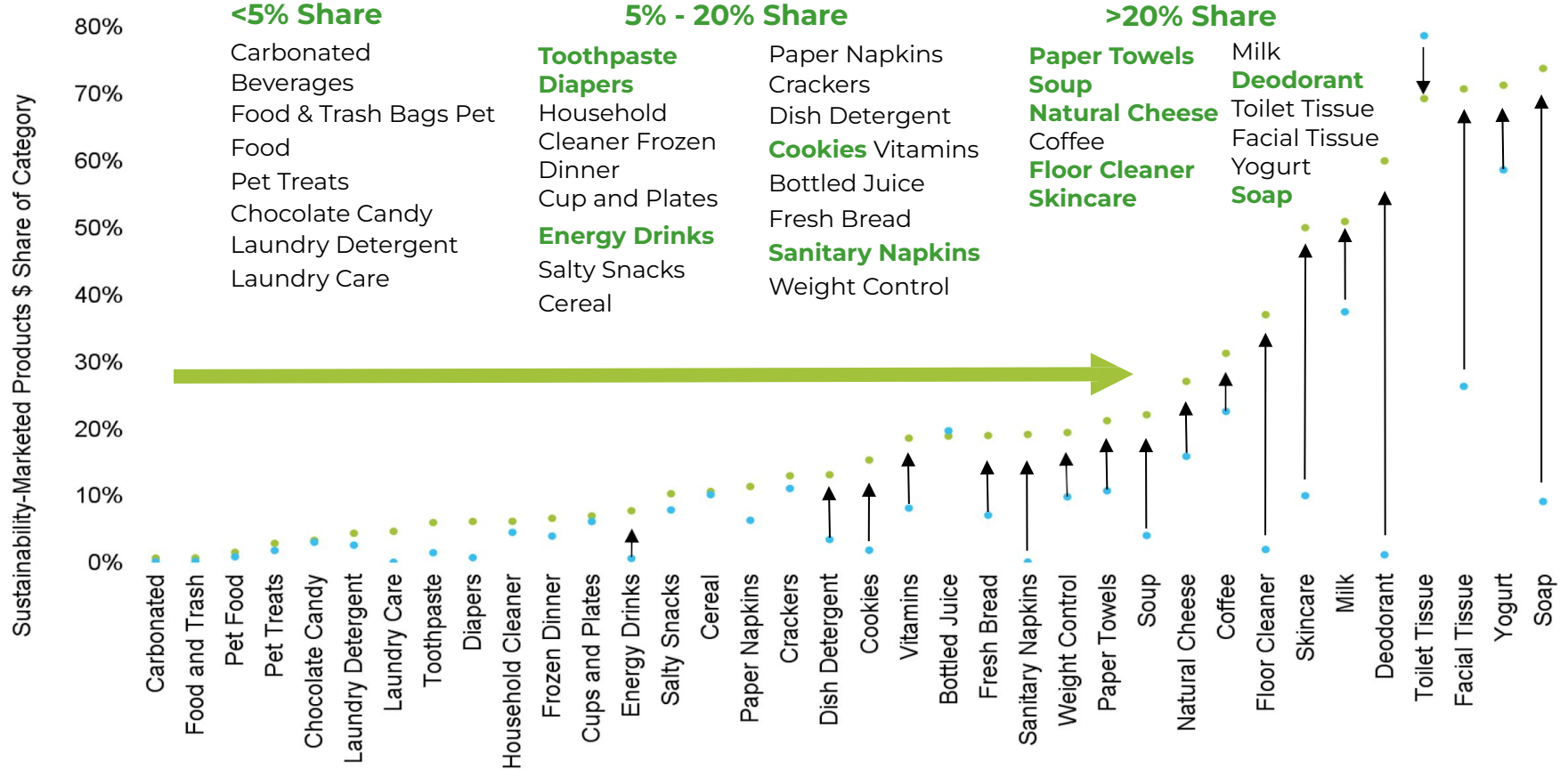
7.0%

Conventionally-marketed
5-YR CAGR:

6.4%

Note: Based on 36 categories examined; includes private label

Sustainable Market Share Index™: Category performance



Sustainability Purchase Index: Generational Cohorts

In general, the **younger the HH**, the **more likely** they are to purchase sustainable products



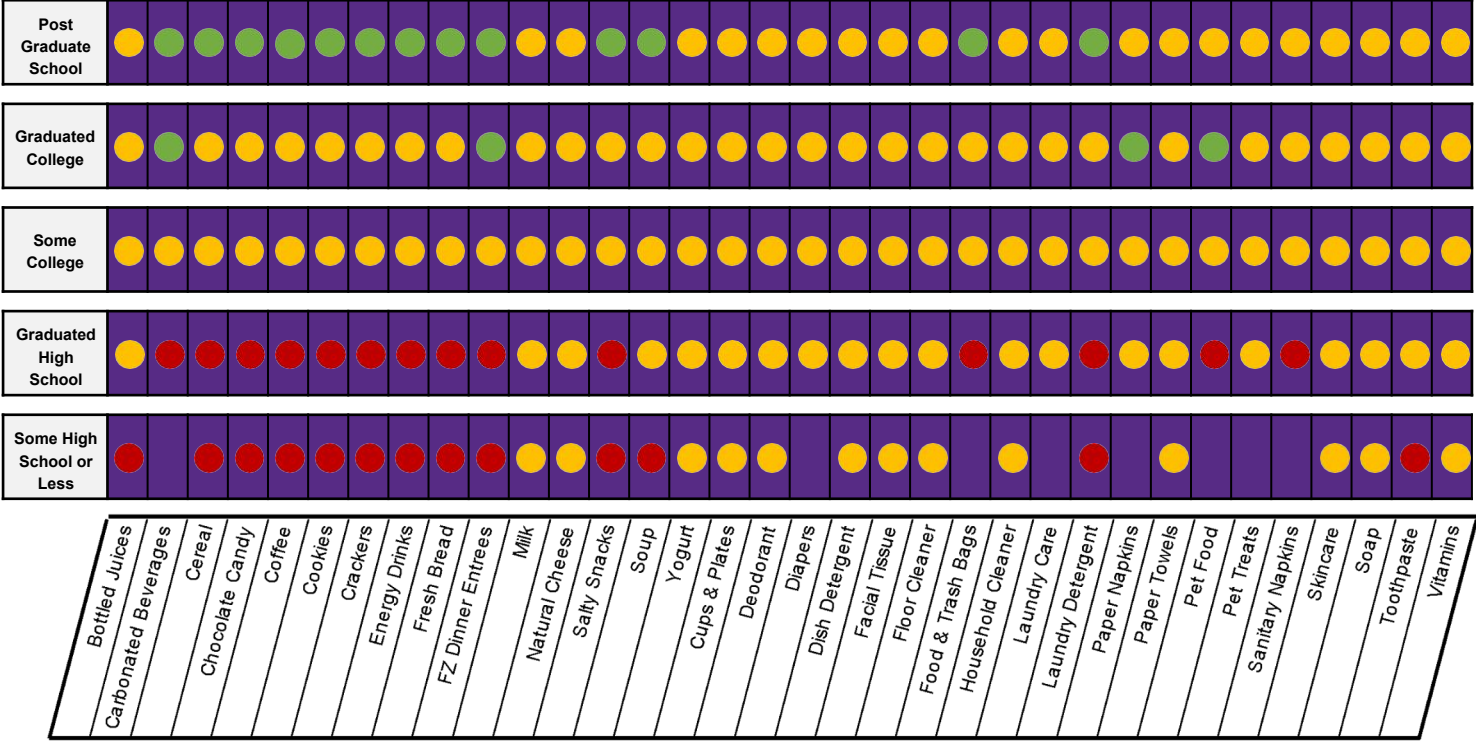
Total CPG Sustainable Sales Composition	
Millennials	30%
Generation X	31%
Boomers	33%
Seniors & Retirees	6%

- Index 120+
- Index 80-120
- Index <80

Chart read as: Millennials purchased a significantly higher percent (>1.2x) of their coffee purchases on sustainable products, than did average HHs.

Sustainability Purchase Index: Education

The **more educated** the consumer, the **more likely** they are to buy sustainable products



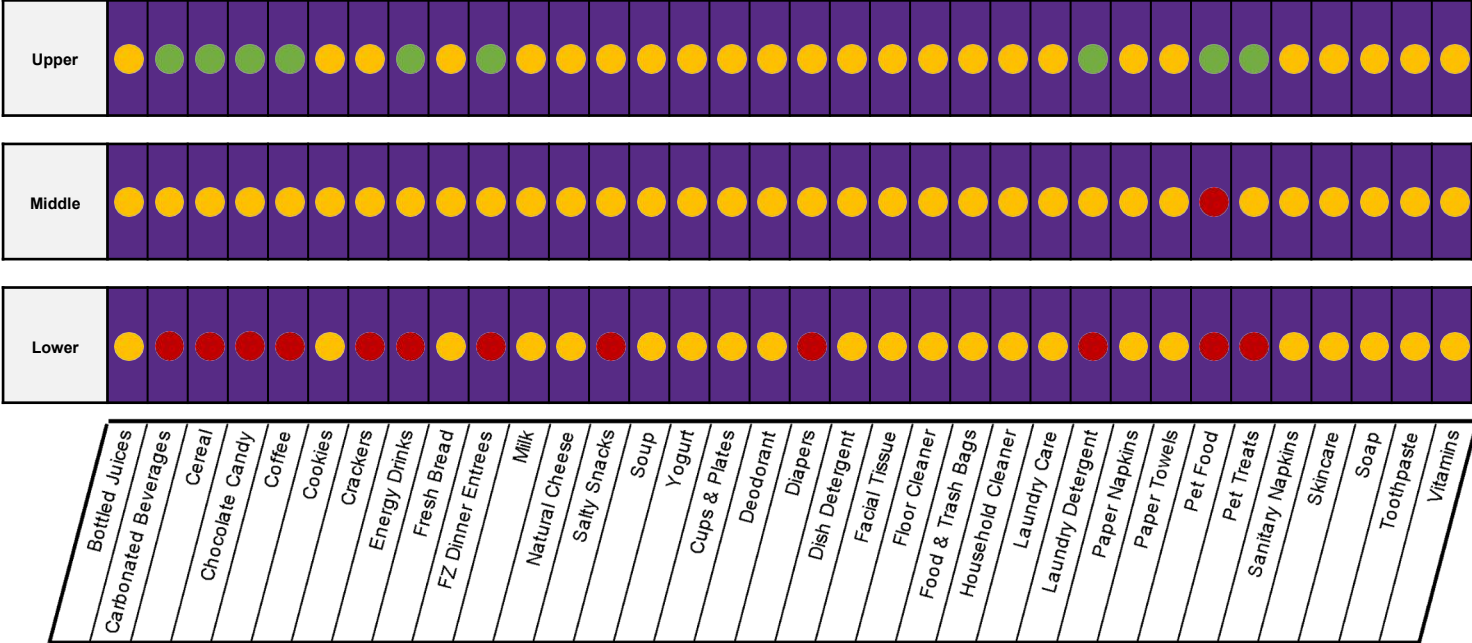
Total CPG Sustainable Sales Composition	
Post Graduate School	18%
Graduated College	36%
Some College	27%
Graduated High School	17%
Some High School or Less	2%

- Green: Index 120+
- Yellow: Index 80-120
- Red: Index <80

Chart read as: Female HHs who attended post graduate school purchased a significantly higher percent (>1.2x) of their carbonated beverage purchases on sustainable products, than did Average HHs.

Sustainability Purchase Index: Income Tiers

The **more affluent** the consumer, the **more likely** they are to buy sustainable products



Total CPG Sustainable Sales Composition	
Upper	41%
Middle	38%
Lower	21%

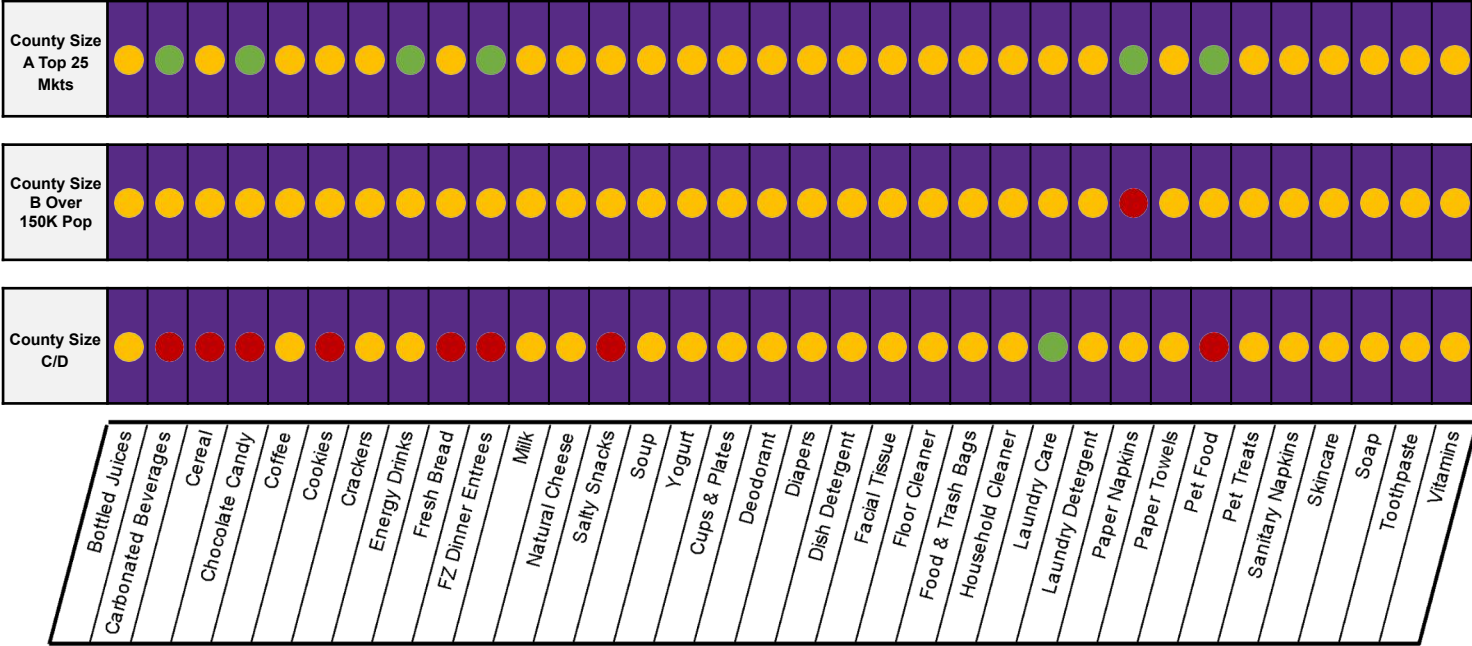
- Index 120+
- Index 80-120
- Index <80

Income Classification: Upper (>=\$70k 1P + \$30k all others), Middle (\$30-70k 1P + \$5k per add'l person), Lower (<\$30k 1P + \$5k per add'l person)

Chart read as: Upper income HHs purchased a significantly higher percent (>1.2x) of their carbonated beverage purchases on sustainable products, than did average HHs.

Sustainability Purchase Index: Urbanicity

The **more urban** the consumer, the **more likely** they are to buy sustainable products



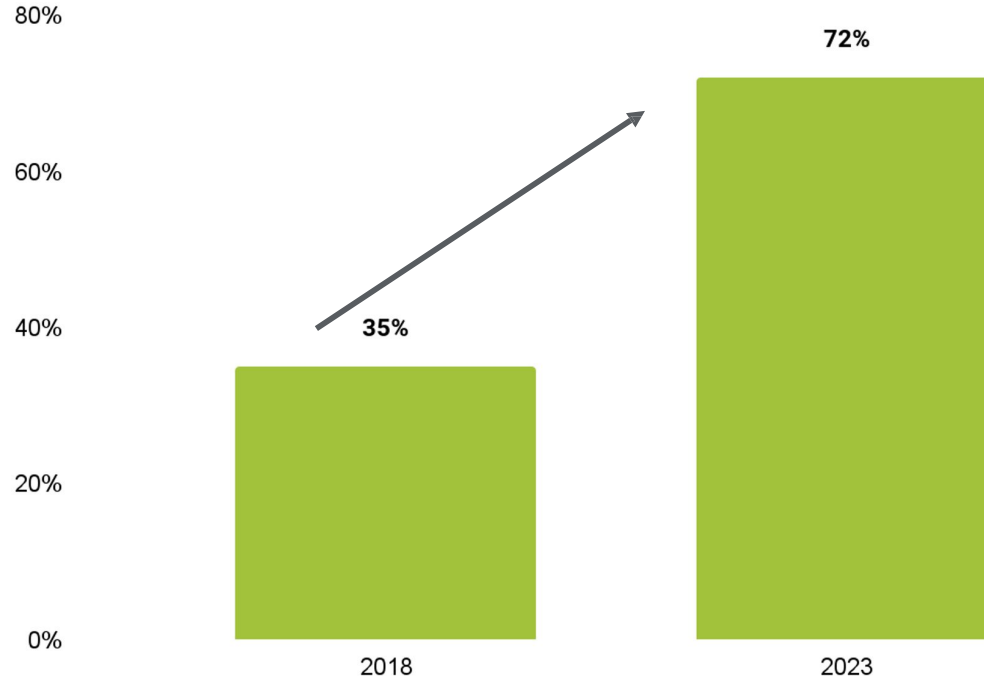
Total CPG Sustainable Sales Composition	
County Size A Top 25 Mkts	42%
County Size B Over 150K Pop	31%
County Size C/D	27%

- Green dot: Index 120+
- Yellow dot: Index 80-120
- Red dot: Index <80

Chart read as: Households in County Size A purchased a significantly higher percent (>1.2x) of their carbonated beverage purchases on sustainable products, than did average HHs.

Sustainable Market Share: Plain Bottled Water

Plastic bottles using recycled materials in the plain bottled water segment **has grown to 72%** in just 5 years



Sustainable Market Share: Summary



**Sustainable products continue to grow,
outperforming the market and
conventionally marketed products**

Effective Sustainability Communications



RICHARD EDELMAN

CEO
Edelman



RANDI KRONTHAL-SACCO

Senior Scholar
NYU Stern CSB



The Sustainability Amplifier Effect



BEST RESONATING Sustainability Claims

Consumers
care most about:



My health



My wealth



My personal world: children, animal welfare, local farmers/sustainable sourcing

LOWER RESONATING Sustainability Claims

Consumers
care less about:



Scientific causes behind sustainability
(they care about effects)



Traceability



Certifications



Packaging

Scan QR code to access the full report





Time for a coffee break!

The program will resume at
11:25 am

Value Drivers in Sustainable Food and Agriculture



JON HIXSON
Chief Sustainability Officer
VP Global Affairs
YUM! Brands



MAX KRASILOVSKY
Senior Manager
Sustainability Strategy +
Transformation
Deloitte



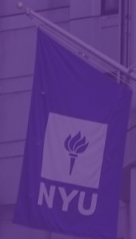
BRANDY MURATORE
Vice President,
Finance/Global Business
Partner
Constellation Brands



ALEX SHNEYDMAN
Director, Enterprise Risk
Management
Constellation Brands



ELYSE DOUGLAS (Moderator)
Senior Research Scholar
NYU Stern CSB



Sustainability Strategies



**Climate Change
Mitigation & Adaptation**



Soil Health



**Biodiversity &
Ecosystem Conservation**



Chemical Management



Sustainable Sourcing



Animal Stewardship



Food Waste



Water Stewardship



**Employee &
Supplier Wellbeing**



Food Safety & Nutrition



Sustainable Packaging



**Brand Marketing &
Communications**

Key Themes Overview



Investing in sustainability strategies has demonstrated a strong, positive business case.



The cost of inaction through lost revenue and/or higher costs comes from delaying or withholding sustainability investment.



Opportunity-related benefits were discovered by many companies who originally focus their sustainability strategies on risk mitigation.



Financial benefits are impacted by where a company sits on the value chain.



Realized financial benefits from sustainability investments don't fully mollify uncertainty about future value of such investments.



Benefits from sustainability investments are often unidentified or undervalued due to difficulties in measuring progress and value.



Collaboration brings even better results within the interconnected food system.

Value Drivers in Sustainable Food and Agriculture



JON HIXSON

Chief Sustainability Officer
VP Global Affairs
YUM! Brands



MAX KRASILOVSKY

Senior Manager
Sustainability Strategy +
Transformation
Deloitte



BRANDY MURATORE

Vice President,
Finance/Global Business
Partner



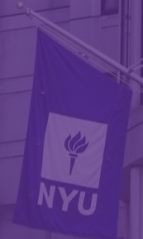
ALEX SHNEYDMAN

Director, Enterprise Risk
Management
Constellation Brands



ELYSE DOUGLAS (Moderator)

Senior Research Scholar
NYU Stern CSB



Return on Sustainability

Investment in Action:

Circular Supply Chains



KATHYA MAHADEVAN

Sr Sustainability Leader,
Circular Economy
Owens Corning



TRISTAN STEICHEN

Executive Director
National Lubricant Container
Recycling Coalition



CHISARA EHIEMERE
(Moderator)

Senior Research Scholar
NYU Stern CSB





Lunch Break

The program will resume at
2:15 pm

Fireside Chat with Nespresso

Driving Sustainable Quality and Stakeholder
Engagement at Nespresso



ALFONSO GONZALEZ LOESCHEN
CEO
Nespresso North America



PHIL WAHBA
Senior Writer
Fortune



Breaking Through Barriers of Sustainability Value Creation for Investors



SANAZ RACZYNSKI

Managing Director of
Sustainability
Kohlberg & Company



SERGE YOUNES

Head of Sustainability
Investindustrial



HUGH BROWN (Moderator)

Global Head of Financial
Services
BSR



Fireside Chat with Deloitte

Constraints and Opportunities Offered by
Sustainability and ESG



SCOTT CORWIN

Chief Strategy and
Commercialization Officer
Deloitte Sustainability Practice



DIANE BRADY

(Moderator)
Editorial Director
Fortune CEO Initiative



Feedback Survey



Scan to complete a brief survey and share your feedback from the conference.

See you at happy hour!

Breakout Sessions

Please join us for one of the following sessions



RAPHAEL BEMPORAD

Founding Partner
BBMG

**Sustainable Storytelling
Amid ESG Backlash
(UC-25)**

KATHIA ELIZONDO

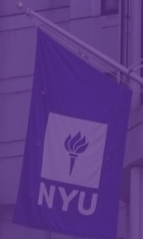
Strategy Management Lead
SWCA Environmental
Consultants

**Monetizing ROSI
Strategies
(UC-24)**

MAX KRASILOVSKY

Senior Manager
Sustainability Strategy +
Transformation
Deloitte

**Scope 3 Reductions in
Food and Ag
(UC-21)**



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