

*A Better World,
Through Better Business*

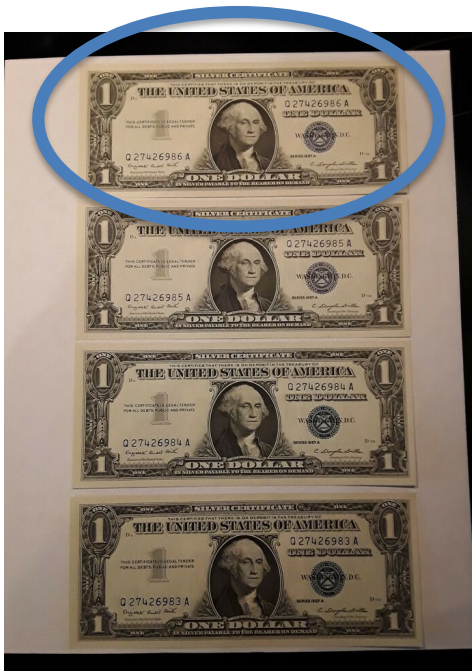


Center for
Sustainable Business

The Return on Sustainability Investment

Tensie Whelan, Director,
NYU Stern Center for Sustainable Business
2019 CSB Practice Forum

\$1 in \$4 in ESG Investing



85% companies in S&P 500 are issuing sustainability reports



But Most People Still Argue the Business Case. Why?



Because most companies are not monetizing the Return on Sustainability Investment (ROSI)



Why not?

- Assessing ROSI is complicated to implement
- Many different sustainability strategies (ESG); strategy and execution sit within different units
- Sustainability strategies are not tied to total return from the outset
- Financial benefits are tracked differently (if at all) by different units and are not aggregated
- Some benefits are intangible and difficult to measure
- Not clear to the finance function that there is a significant financial benefit that would justify tracking ROSI
- Investors/board members are not asking for ROSI

Stern CSB Return on Sustainability Investment (ROSI)



Sustainability Drivers of Financial Performance and Competitive Advantage

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



Improves:

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

Drives:

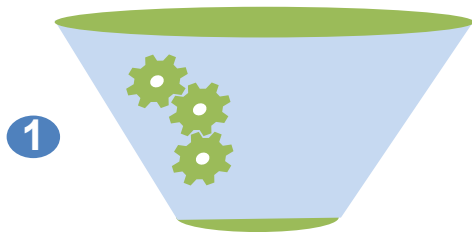
- Greater Profitability
- Higher Corporate Valuation
- Lower Cost of Capital

Delivers:

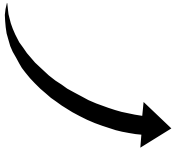
- Short- and Long-Term Value Creation for Shareholders and Society



ROSI Methodology: Three Steps

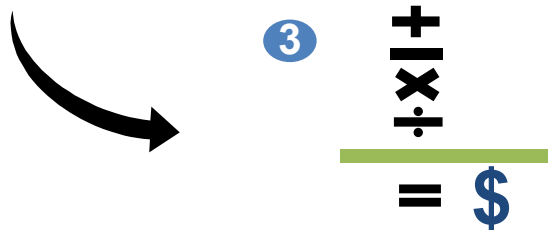


Identify material ESG issues for the sector (SASB) and the related sustainability strategy and initiatives



	Description
Benefit 1	Cost Savings Through Improved Operational Efficiencies
Benefit 2	Better Positioned to Manage and Mitigate Risk
Benefit 3	Innovation Through Design

Identify specific sustainability benefits through mediating factor framework



Quantify and monetize benefits

Monetizing Deforestation-Free Supply Chain Commitments



ATKearney

Betty and Gordon Moore Foundation



Rancher Benefits:

- 2.3X increase in productivity
- 0-70% high quality beef
- 7X increase in profitability
- Up to \$29 million NPV10
- 20% reduction in GHG emissions



Slaughterhouse Benefits:

- Reduced risks
- Improved supply chain stability/quality
- Premium (quality/sustainability)
- Up to \$100 million NPV10

Retailer Benefits:

- Reduced risks
- Talent enhancement
- Premium (quality/sustainability)
- Up to \$40 million NPV10

How Companies Are Using ROSI



- **Automotive Sector**: To assess the contribution of sustainability strategies to margins and valuation
- **Apparel Sector**: To assess the contribution of circularity and worker well-being programs to corporate financial performance
- **Food Company**: To assess the intangible financial benefits for suppliers of participating in sustainability programs
- **Food Company**: To assess and monetize potential of climate risk and interventions for supply chain
- **Pharmaceutical Company**: To build in from the beginning a ROSI assessment of EH&S Strategy and include metrics for assessing ROSI upon execution



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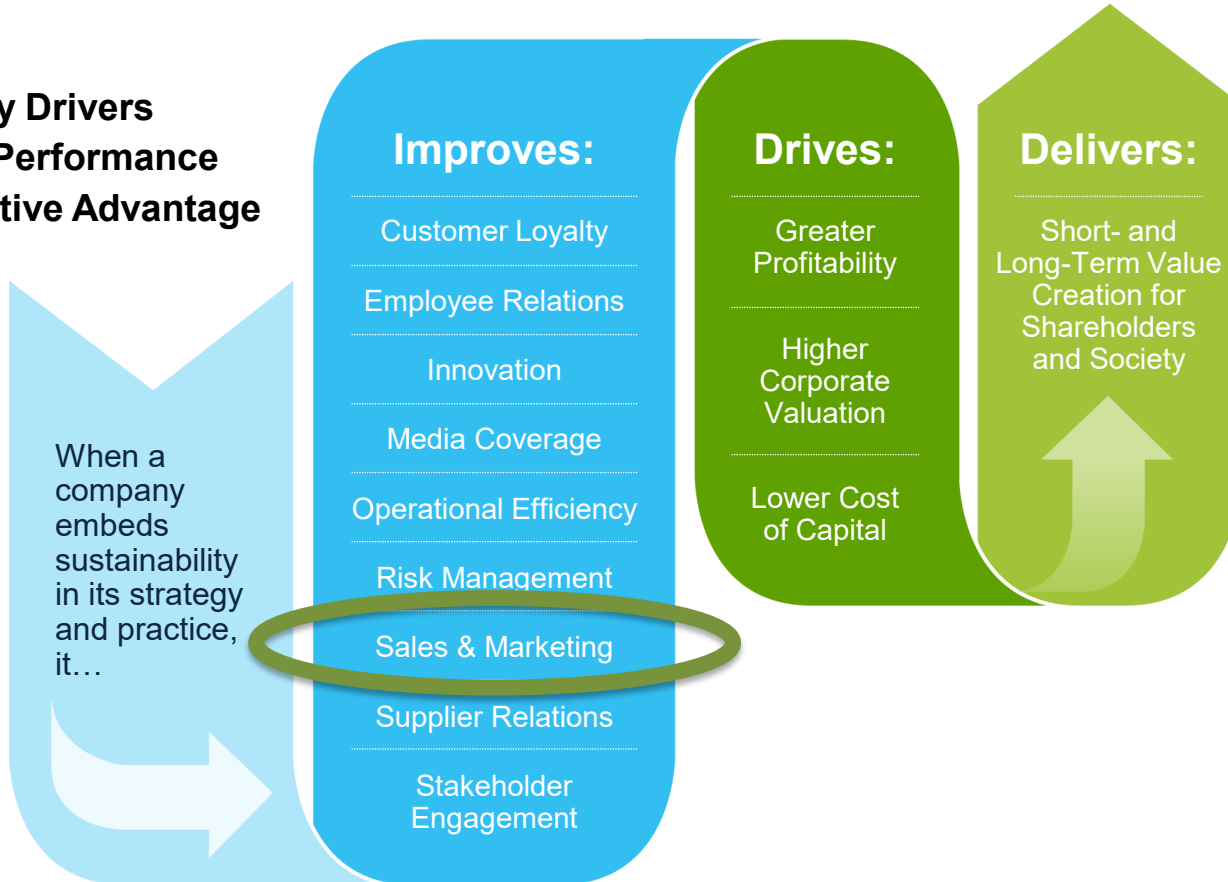
Ground-Breaking Study on Consumer Purchasing of Sustainability- Marketed Products

Tensie Whelan, Director,
NYU Stern Center for Sustainable Business

Stern CSB Return on Sustainability Investment (ROSI)



Sustainability Drivers of Financial Performance and Competitive Advantage



Sales and Marketing ROSI: New Study with IRI



- **There is no current, comprehensive data on consumer purchasing of sustainability-marketed products available for companies to build into marketing plans (or ROSI).**

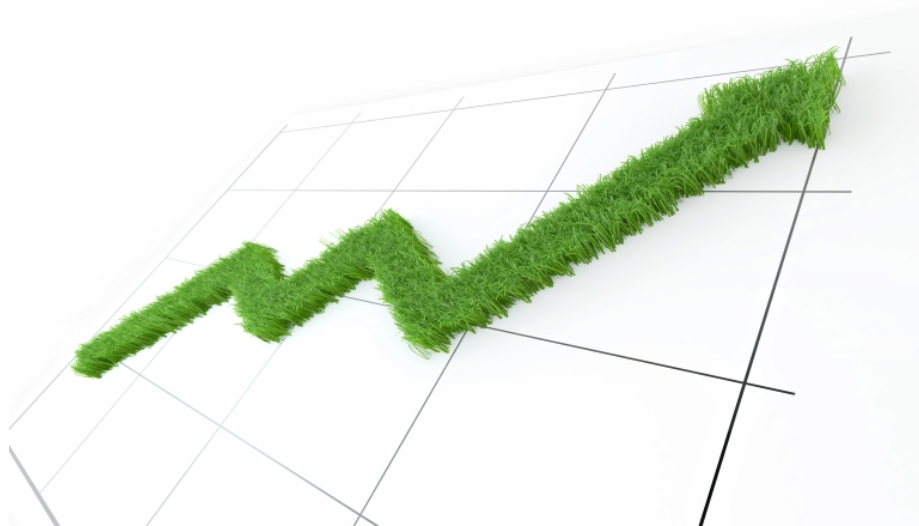


- Partnered with IRI
- Reviewed Point of Sale data on CPG in all measured channels in U.S.
- 2013-2018
- 36 categories, excluding alcohol/tobacco
- 71,283 products
- Created the **NYU Stern CSB Sustainable Share Index™**



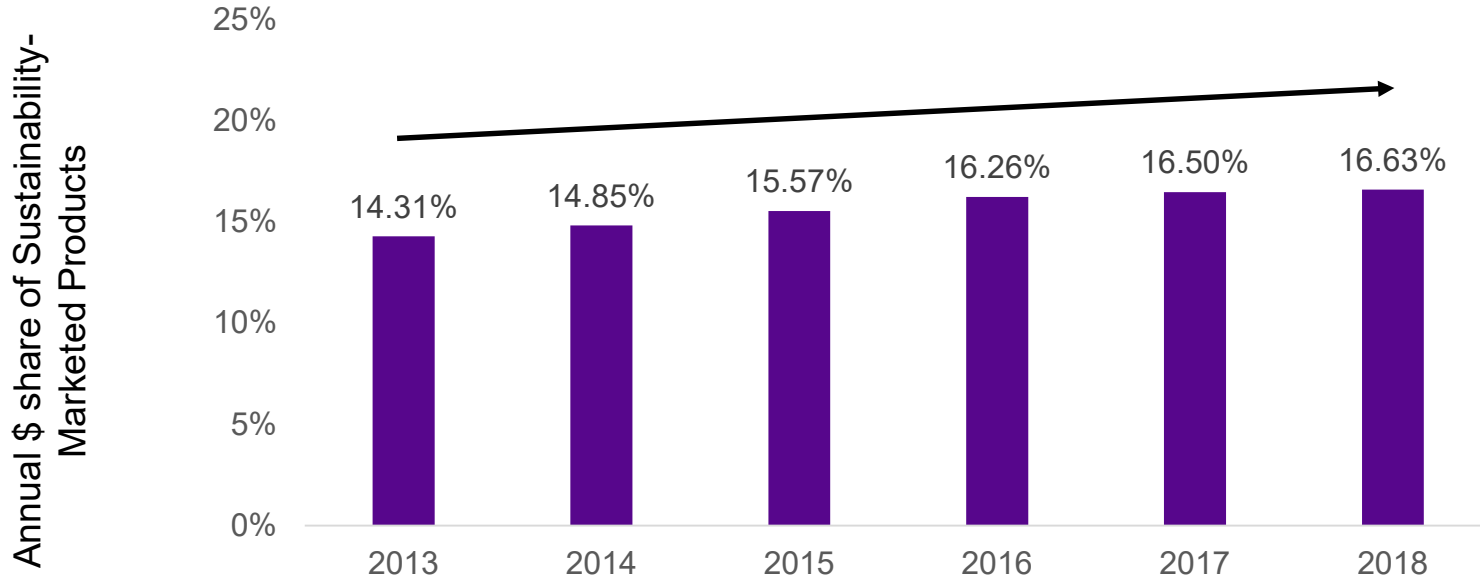
Q. Have purchases of sustainable products increased over time?

A. Products marketed as sustainable are driving not only *product* but also *total category/market growth*.





Across all categories studied, Sustainability-Marketed Products account for 16.6% share of market (\$) in 2018, up from 14.3% in 2013.

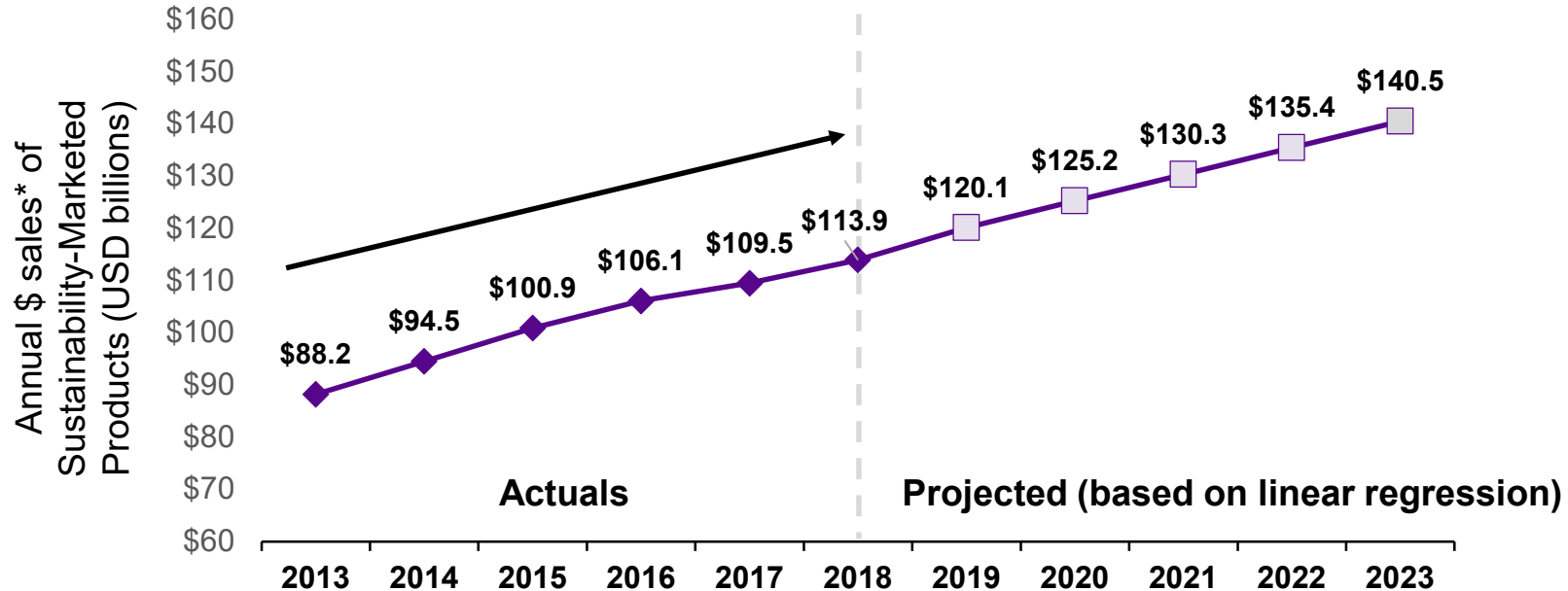


Based on 36 product categories examined

Stern CSB Sustainable Share Index: Findings



Across all categories, Sustainability-Marketed Products delivered \$113.9B in Sales in 2018, +29% vs. '13 and are expected to grow to \$140.5B by 2023.



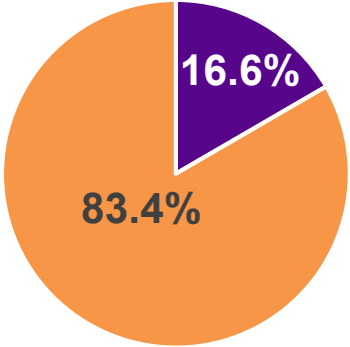
*The total value of Sustainability-Marketed Products is estimated, based on the actual sales of 36 product categories, representing approximately 40% of the total market in measured channels, excluding alcohol and tobacco.

Stern CSB Sustainable Share Index: Findings



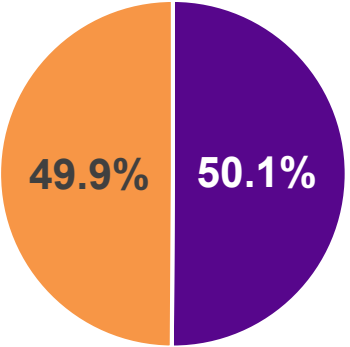
Despite the fact that Sustainability-Marketed Products are 16% of the market, they delivered more than half of the market growth.

\$ Share of Market
(2018)



- Sustainability-Marketed Products
- Conventional Products

\$ Share of Market Growth
(2013-2018)



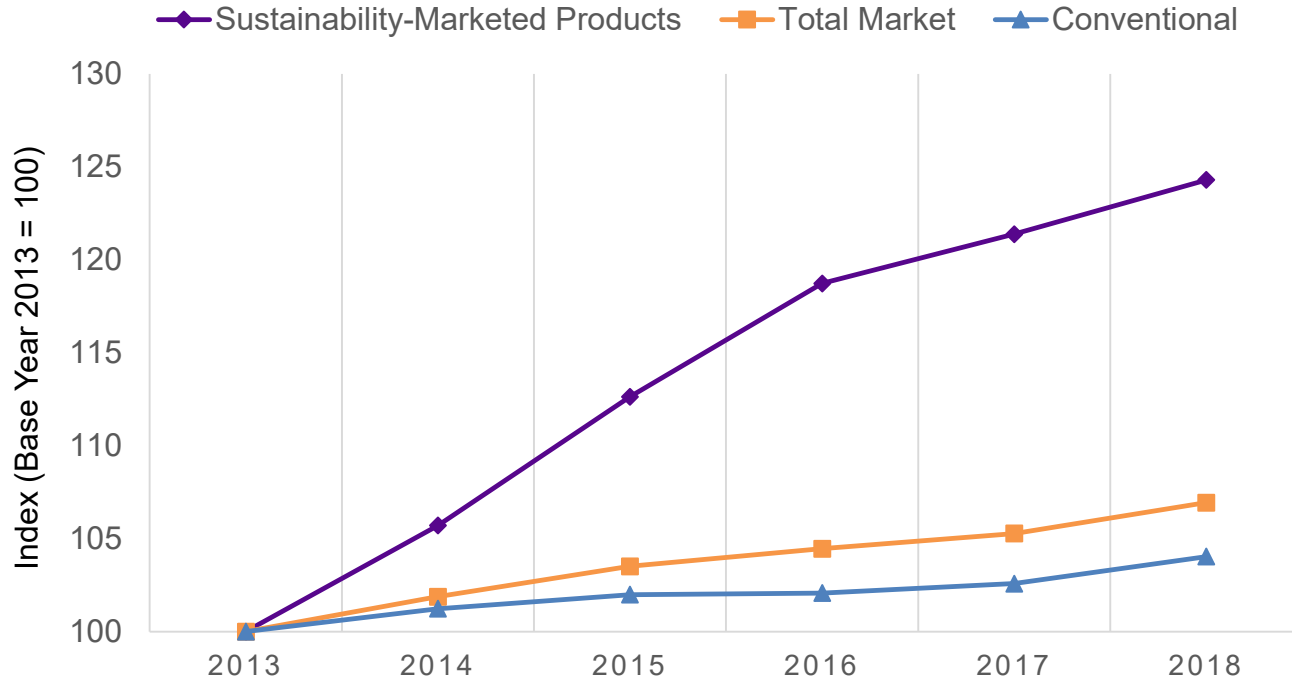
- Sustainability-Marketed Products
- Conventional Products

Based on 36 product categories examined

Stern CSB Sustainable Share Index: Findings



Sustainability-Marketed Products grew 5.6x faster than conventionally-marketed products, and 3.3x faster than the CPG market.



Sustainable
5-YR CAGR:
4.45%

Total Market
5-YR CAGR:
1.35%

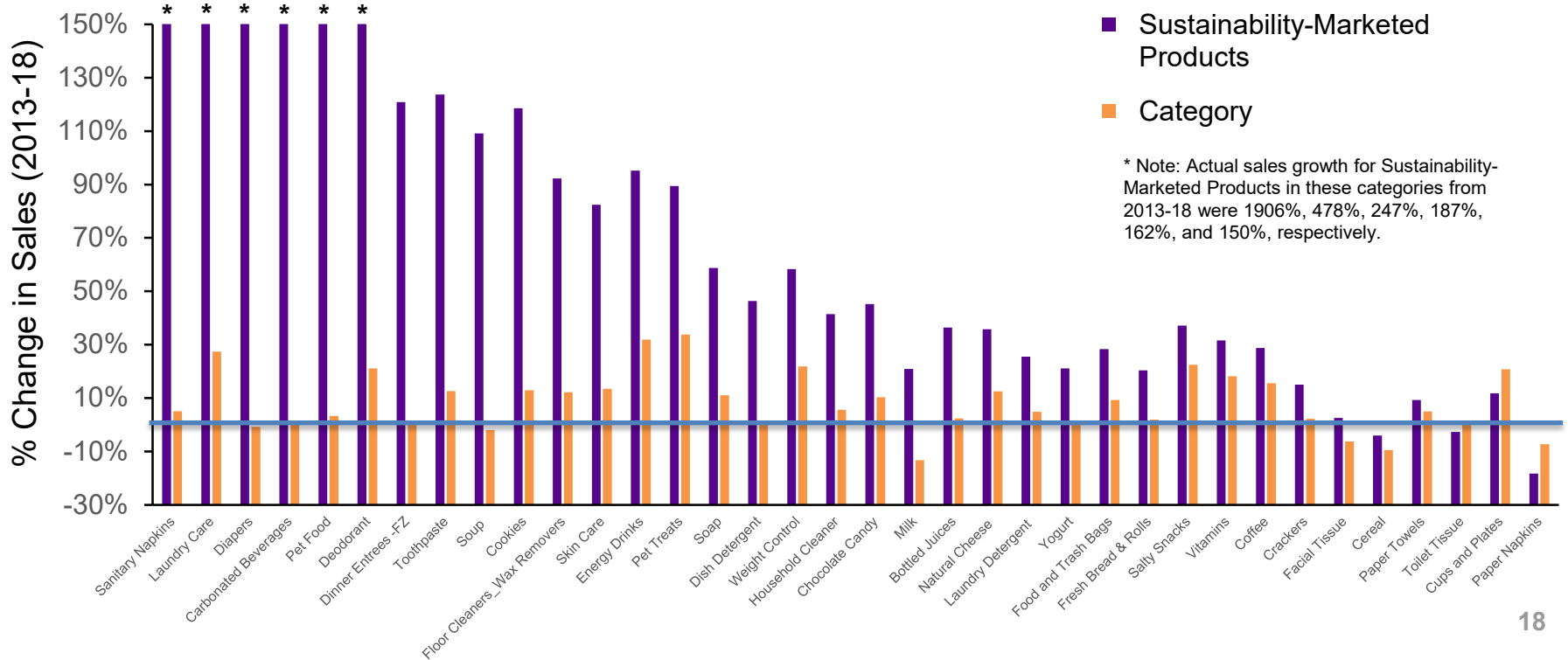
Conventional
5-YR CAGR:
0.80%

Based on 36 product categories examined

Stern CSB Sustainable Share Index: Findings



For over 90% of individual product categories, the growth of Sustainability-Marketed Products outpaced the growth of their respective categories.



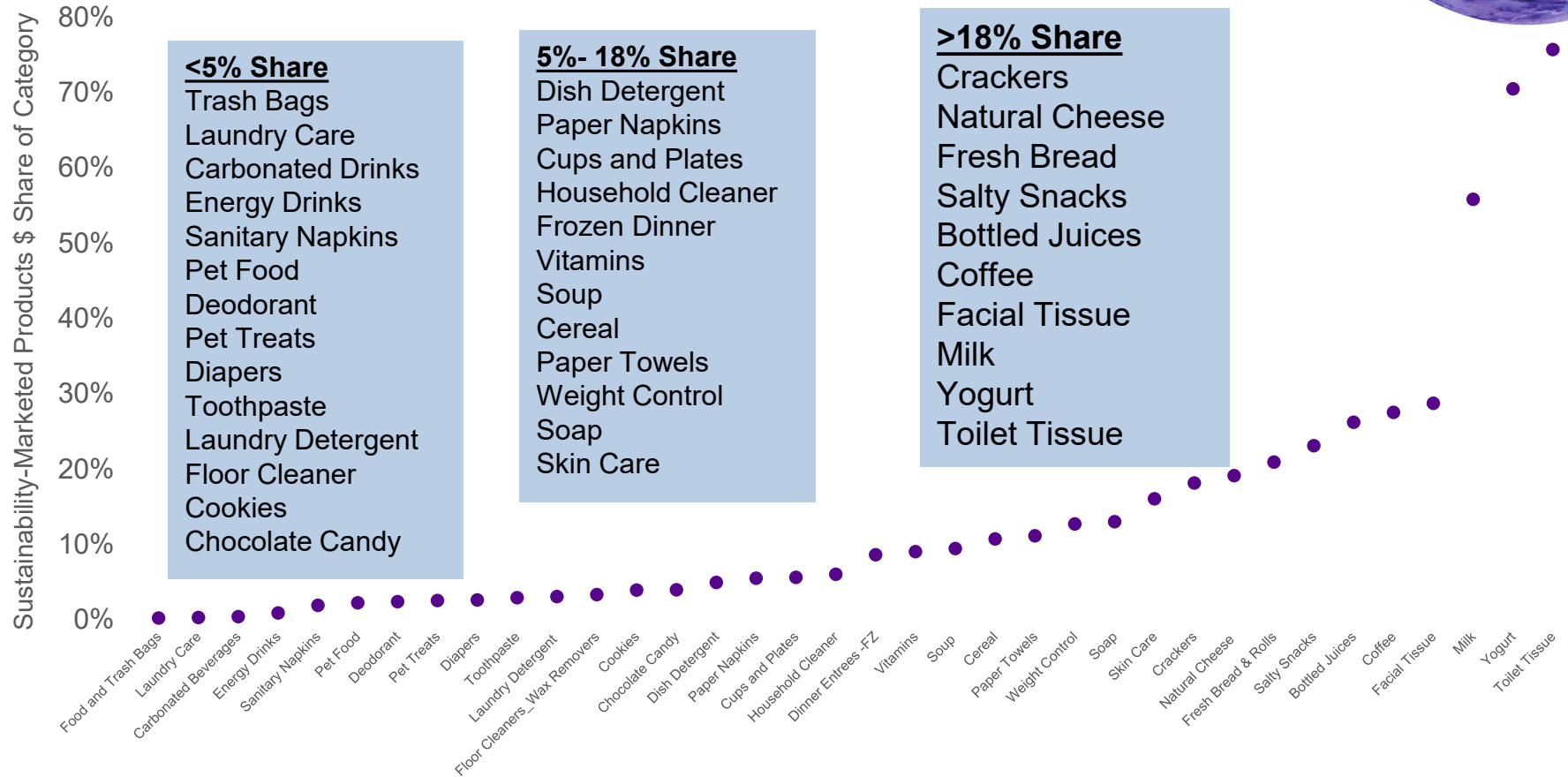


Q: Are there specific product categories in which the purchases of more sustainable product options out- or underperform less sustainable alternatives?

A: Yes. Categories that demand high functionality (e.g. detergent) do not have a large percentage of sustainable purchases, but nevertheless experienced share growth.

Conversely, categories with low functionality demands (e.g. salty snacks) have higher category consumption.

Sustainability-Marketed Products as a % of the Category





The NYU Stern Center for Sustainable Business plans to further explore the data, tackling research questions such as:

- Are there demographic and/or psychographic differences in purchasing behavior?
- Are there geographical differences in purchasing?
- Does price affect the purchase behavior? Are there differences between price brands and premium brands?
- Are there differences among retail outlets?

Questions?



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ROSI in the Automotive Sector

Tensie Whelan, Director,
NYU Stern Center for Sustainable Business

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Drives:

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Delivers:

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Return on Sustainability Investment in Automotive Manufacturing

NYU STERN

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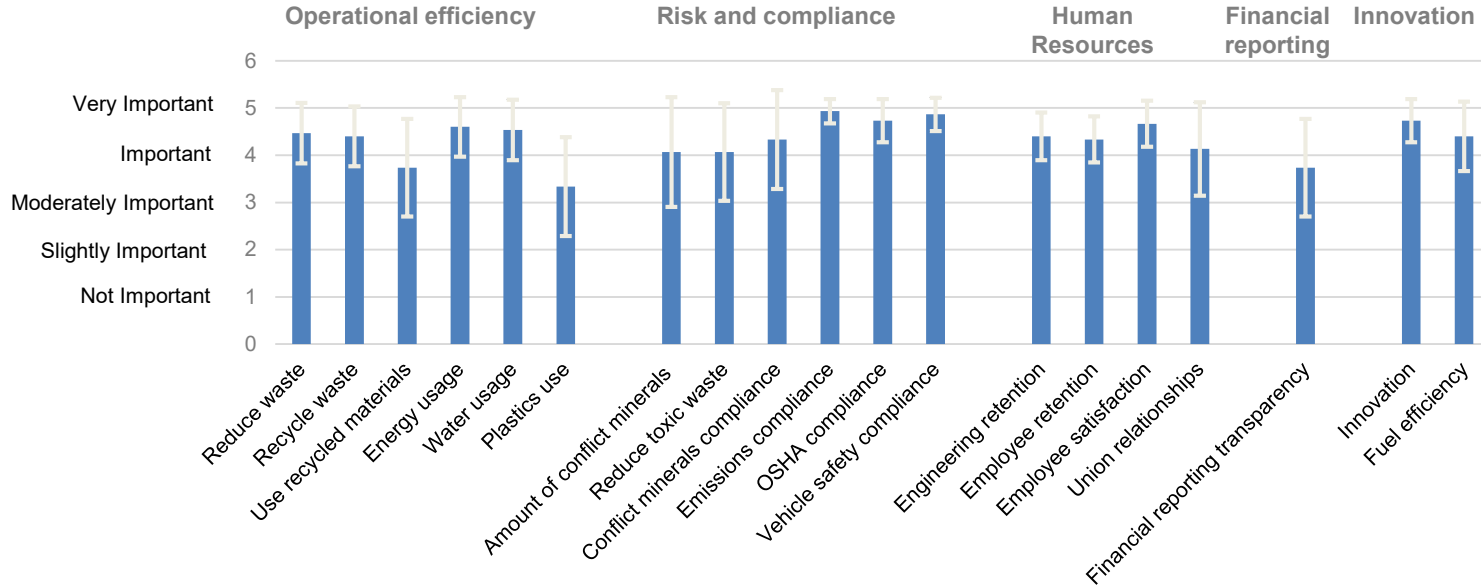
ASTON MARTIN



Company Execs Are Aligned on Materiality Factors



- Strong consensus that ESG factors have a material impact on financial performance (scores of 3 or greater)
- Highest scores tied to regulatory compliance on emissions and safety
- Lowest scores relate to use of plastics and recycled materials and transparency in financial reporting



CSB Methodology Identified 18 Sustainability Strategies



Strategies Identified

Key Drivers

Reduce Resource Consumption Improve Waste Management Reduce Carbon Emissions Reduce VOC Emissions Recycle And Recover From End-Of-Life Products	Operating Performance (includes Operating Efficiency, Improved Sales and Marketing, and Better Media
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Minimize Downtime In Regions Prone To Natural Disasters, Water Scarcity, Etc Avoid Use Of Conflict Minerals Improve Safety Improve Governance Around Sustainability Use Renewable Energy	Risk Reduction
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Incorporate more sustainable materials or design into the product Increase Fuel Efficient Product Presence Innovate to Provide Long-Term Improved Sustainability Technology Increase Sustainable Product Presence Engage Cosumers With Sustainability Through Innovative Services	Innovation
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Engage Employees In Quality Of Worklife Engage Suppliers On Specific Sustainability Matters (Improve Ecosystem) Improve Talent Acquisition, Employee Retention, And Productivity	Stakeholder Engagement (Includes Better Supplier and Employee Relations and Customer Loyalty)
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Sustainable Strategies

- Reduce resource consumption
- **Improve waste management**
- Improve employee relations
- Innovate to provide long-term improved sustainable technologies

Sustainable Practices

- Implementing new water filtration system
- **Recycling paint and solvents**
- Implementing ergonomic changes to production line
- Producing more electric vehicles

Benefits

- Reduced costs for water, energy
- **Reduced costs for wastewater and toxic waste disposal**
- **Reduced costs for paint, solvents**
- **Revenue for recycled materials**
- Higher productivity, increased worker safety
- New revenue from innovative products

Automotive sustainability strategies drive:

- **Higher Operational Efficiencies**
- **Risk Reduction**
- **Innovation and Growth**

Contributing substantial tangible financial benefits

- **Can improve earnings up to 3.7% of revenues**



Operating Performance Strategies

Achieve cost efficiencies and generate revenues



Strategies	Benefits	Mediating factor	Monetization methods
Reduce Resource Consumption	Reduced electricity or water cost	Higher operational efficiency	The reduced per unit cost of energy or water on current year production. Subtract any costs to achieve the benefit for operating income impact. Calculate NPV assuming 5 year forecast of net operating income benefits and upfront investments.
Improved Waste Management	Revenue from selling recycled materials	Improved sales and marketing	Average selling price per ton of solid waste on amount sold less the cost to recover (calculated as \$ per ton) less cost per ton to recycle
	Savings from using recovered waste	Higher operational efficiency	Savings from using less virgin material and lower disposal costs associated with the recovery and reuse solid materials (weighted average per price per metric ton).
	Savings from using recycled water		Savings from reduced spend on fresh water due to using recycled water net of costs to recycle plus the savings unless waste water disposal cost using average disposal price per M3
	Cost avoided from traditional waste disposal		Per unit disposal cost per ton of waste to the amount of material recovered/reused or recycled
	Energy savings in manufacturing		Energy savings by comparing the weighted average energy intensity per ton using virgin material to the energy intensity using recovered/recycled material
Reduce Emissions - Carbon	Savings from reduced need for carbon credits	Higher operational efficiency	Reduced spend on carbon credits due to the reduction in emissions in manufacturing subtract costs incurred to achieve the reduction for net operating income benefit.

Innovation Strategies

Develop new sustainability product, services or processes



Strategies	Benefits	Mediating factor	Monetization methods
Increase sustainable Product Presence	Incremental sales from new sustainable products	Improved sales and marketing	Incremental sales from the number of zero emission and low emission models sold using the weighted average price per unit. Incremental margin on zero emission and low emission vehicles sold assuming an average cost of goods sold (COGS).
Innovate to Provide Long-term Improved Sustainability Technologies	Increased pricing on products with enhanced sustainability features	More innovation	Differential in average price per vehicle with and without innovative sustainability features minus the sales weighted average COGS of sustainability features, and multiplied by the number of non-zero and low emission vehicles sold that include the added sustainability features.
Engage Consumers with Sustainability through Innovative Services	New revenue streams	Improved sales and marketing	Annual revenue stream from sustainable services (e.g. car sharing, in-vehicle security or emergency services) less wages and other SG&A costs associated with the services.
Incorporate More Sustainable Materials into Product Design	Savings from substituting sustainable materials in product design (i.e. recycled and renewable materials)	Higher operational efficiency	Raw material purchased that is renewable/ recycled/ lightweight materials in tons multiplied by the differential in weighted average price of traditional versus renewable/ recycled/ lightweight materials per ton less any additional operating costs required.
	Lower costs on energy and resources used in manufacturing when using renewable/recycled lightweight materials	Higher operational efficiency	Differential in weighted average spend on energy and resources in traditional manufacturing versus the weighted average spend on energy and resources in manufacturing using renewable/recycled/lightweight materials multiplied by the amount of substituted sustainable material less any additional amount of operating costs incurred on using the substitute materials.

Current reporting frameworks may not be adequate for measuring financial benefits

- The number of product recalls is standard reporting but not the financial impact
- Information on costs is needed to understand the financial impact; not currently aggregated
- Average repair cost per vehicle times average number of cars per recall
- Average legal & PR costs per recall
- Money spent on increased quality control, premium redesigned parts, and additional training



The financial benefit of xx less recalls was more than \$550 million.

Waste management reduces costs, generates additional revenues

Examples of Practices

- Process improvements to recover, reuse and recycle waste (including water)
- Increase the number of land-fill free sites
- Dedicated group to identify reuse opportunities



Results

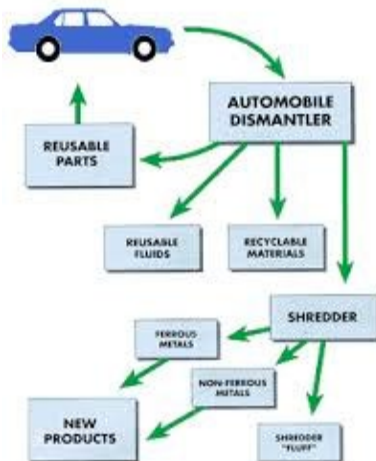
- Cost savings due to lower spend on virgin materials
- Increased net revenues from sales to recyclers
- Reduction in water costs by using recycled water
- Energy savings due to lower use for recycled vs virgin materials
- Reduction in waste disposal costs

EBIT impact of \$235 million

Incorporating benefits of sustainability strategies into decision-making requires a systems thinking approach

Examples of Practices

- Recovering & recycling materials from end of life (EOL) vehicles - to maximize the benefit, reusable material needs to be incorporated into the car design



Results

- 2.5% of treated EOL material was recovered and reused and 10% was sold to recyclers in Europe
- Savings achieved from reduced virgin materials, process savings and lower disposal costs and in incremental revenues generated from sales

Total EBIT savings of \$100 million



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ROSI in the Value Chain

Tensie Whelan, Director,
NYU Stern Center for Sustainable Business

The Livelihoods Fund seeks to improve economic and social outcomes for farmers, while building a stable and sustainable supply chain that benefits all.

- Mars and its suppliers fund L3F to pay NGOs to train farmers, organize cooperatives, and set up a direct commodity selling system.
- Goal: high-quality, sustainably-produced products





The Center for Sustainable Business:

- Assessed the benefits that suppliers can accrue
- Identified five benefit categories and 22 monetizable benefits
- Designed a tool to help Mars monetize the value of those benefits

Mars can use the monetization tool to:

- Enumerate the financial benefits of strategic sourcing to get offtaker buy-in
- Identify mechanisms to price in the value of these benefits in sourcing agreements
- Help stakeholders monetize the business opportunities in sustainability

Five Categories of Benefits: 13 Prioritized Benefits



Stable, sustainable supply chain

- Increase the number of suppliers that are professional commercial partners
- Mitigate price volatility through price transparency and farmers adopting sustainable practices
- Reduce risk of crop loss by sustainable farming practices

Long-term contracts

- Implement more efficient processes (e.g. automated invoicing) because of long-term buying commitments from customers (e.g. Mars)
- Increase long-term strategic investments because of long-term contracts

Sustainable product

- Reliable access to higher volumes of high-quality product
- Increased revenue/profit from greater customer demand from sustainable sources

Brand value and innovation

- Gain new customers as a result of L3F media coverage
- Retain the best talent because, e.g., employee values align with the corporate commitment sustainability
- Fund L3F program activities with investments from public institutions or other external organizations
- Generate new revenue streams by expanding to secondary markets

Corporate risk

- Reduce reputational risk (avoiding revenue loss) from sustainability-focused scandals
- Reduce risk of failing to comply with regulation because of sustainability actions

Benefits of the L3F Program



We defined our approach to monetize each benefit:

<i>Benefit group</i>	Name of Benefit	Monetization Method
Stable, sustainable supply chain	Increase the number of suppliers that are professional commercial partners	Annual number of person days saved in maintaining current relationships with suppliers because L3F is helping to maintain relationships
	Mitigate price volatility through price transparency and farmers adopting sustainable practices	Reduced cost of capital from an expected reduction of working capital
	Reduce risk of crop loss by sustainable farming practices	Potential avoided annual revenue loss from supply shortages
	Gain direct connection to groups of farmers / suppliers (with fewer middle men)	Improvement in profit margin

Note: Depending on the L3F commodity being assessed, not all benefits may apply.

The Monetization Tool



Each benefit has its own input section that feeds the formulas for calculating the present value. In some cases, we offer a ‘worked example’ to illustrate how to gather inputs for intangible benefits.

1.1	Increase the number of suppliers that are professional commercial partners	Methodology or example	Unit	2017	Local currency	Notes
Worked example	Annual number of person days saved in maintaining current relationships with suppliers	To estimate the average number of person days saved per year, combine: 1. the time spent to renegotiate an existing contract w suppliers e.g. farming cooperatives (# days/yr spent renegotiating contracts) 2. the time spent liaising with suppliers in the field to maintain relationships (# days/yr maintaining contracts) 3. EXCLUDE the time it takes to train suppliers 4. EXCLUDE the time it takes to recruit new suppliers 5. add the total number of days for renegotiating contracts and maintaining relationships (1-2) and aggregate for all employees. 6. Subtract the number of person days needed to set up supplier relationship within the initial year, annualized Additional assumptions or areas where employees are less productive should be listed in the notes.	Person days			
	Weighted average day cost (blended wage) for employees who maintain supplier relationships	Estimate a weighted average (blended) wage cost per day for employees that engage in the activities mentioned above, for example 100 USD per day. Best available estimate.	USD / day	USD 0		
	Probability	Indicate the likelihood that without participating in the L3F program the saved person days will incur. Default: High (80%)	%	High		
1.2	Mitigate price volatility through price transparency and farmers adopting sustainable practices	Methodology or example	Unit		Local currency	Notes

Link to worked example

Description and references for each input field

Inputs in yellow

Space for notes

Input local currency if relevant

Option to change likelihood of benefit happening

- High
- Medium
- Low
- Very low

The Monetization Tool



Financial benefits were calculated in separate sheets based on the user’s inputs. The value of each benefit rolls up into one of the five benefit categories and an overall estimated value of the benefits expected to accrue to an individual offtaker.

1.1 Increase the number of suppliers that are professional commercial partners

Metrics	Unit	Value	Notes
Annual number of person days saved in maintaining current relationships with suppliers	Person days	80	
Weighted average day cost (blended wage) for employees who maintain supplier relationships	USD / day	\$150	
Probability	%	High 80%	
Term	Years	Medium 5	

Years

Total Financial Impact	0	1	2	3	4	5	6	7	8	9
Annual cost (days * wage)	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$0	\$0	\$0	\$0	\$0
Expected annual cost	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$0	\$0	\$0	\$0	\$0
Value accounting for inflation	\$9,600	\$9,412	\$9,227	\$9,046	\$8,869	\$0	\$0	\$0	\$0	\$0
Total present value	\$35,780									

Financial values are illustrative only.

Questions?



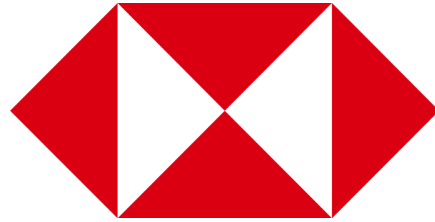
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Additional Initiatives

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HSBC

EILEEN FISHER

Reformation

We Love Fashion.



VEGAN



SUSTAINABLE



FAIRLY MADE



UPCYCLED



ORGANIC

UNSDGs as a Roadmap for Investment in NYC



- Identify and launch opportunities for the private sector to invest in helping NYC to meet SDG goals
- Multi-stakeholder process with communities, entrepreneurs, corporates, investors, government





UNSDGs could create \$12 trillion of economic opportunities by 2030 ([Business & Sustainable Development Commission](#))

- 380 million jobs in four sectors
- Food and agriculture (\$2.3 trillion)
- Cities (\$3.7 trillion)
- Energy and materials (\$4.3 trillion)
- Health and well-being (\$1.8 trillion)





- We invite partners to **help us pilot and test ROSI**.
- We are developing tools to integrate this approach into **quarterly and annual reporting** and welcome partners (investors and corporates).
- We are exploring the role of sustainability in **driving innovation** and would welcome partners to developing business case studies with us.
- We welcome participation in our multi-stakeholder initiative in NYC aimed at identifying the **business opportunities presented by the UNSDGs**.
- We have **brilliant students** ready and willing to intern and work for you!