



# How Green are Your Acres?

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*Laura Sands*

# We are “full immersion” with ag

- Full financial service firm
- Growth strategies: Business and transition planning
- Strategic planning and initiatives
- Market positioning and development
- Advocacy (regulatory and congressional)
- And.....

# EMERGING ISSUE FOR AG:

## ***Sustainability Risk Management Services:***

Providing strategies, connections and solutions to navigate natural resource challenges and supply chain demands

# Overview

- Why the “S” word is unavoidable
- What this is really all about
- What you can do

# You might think sustainability is . . .

- A. That latest fad that people in cities **SAY** they care about, but don't actually pay more for
- B. Something only people who shop at *Whole Paycheck* care about
- C. Code for organic, small and poor

To food companies and retailers,  
“sustainability” and assessing it means . . .

**RISK MANAGEMENT!!**

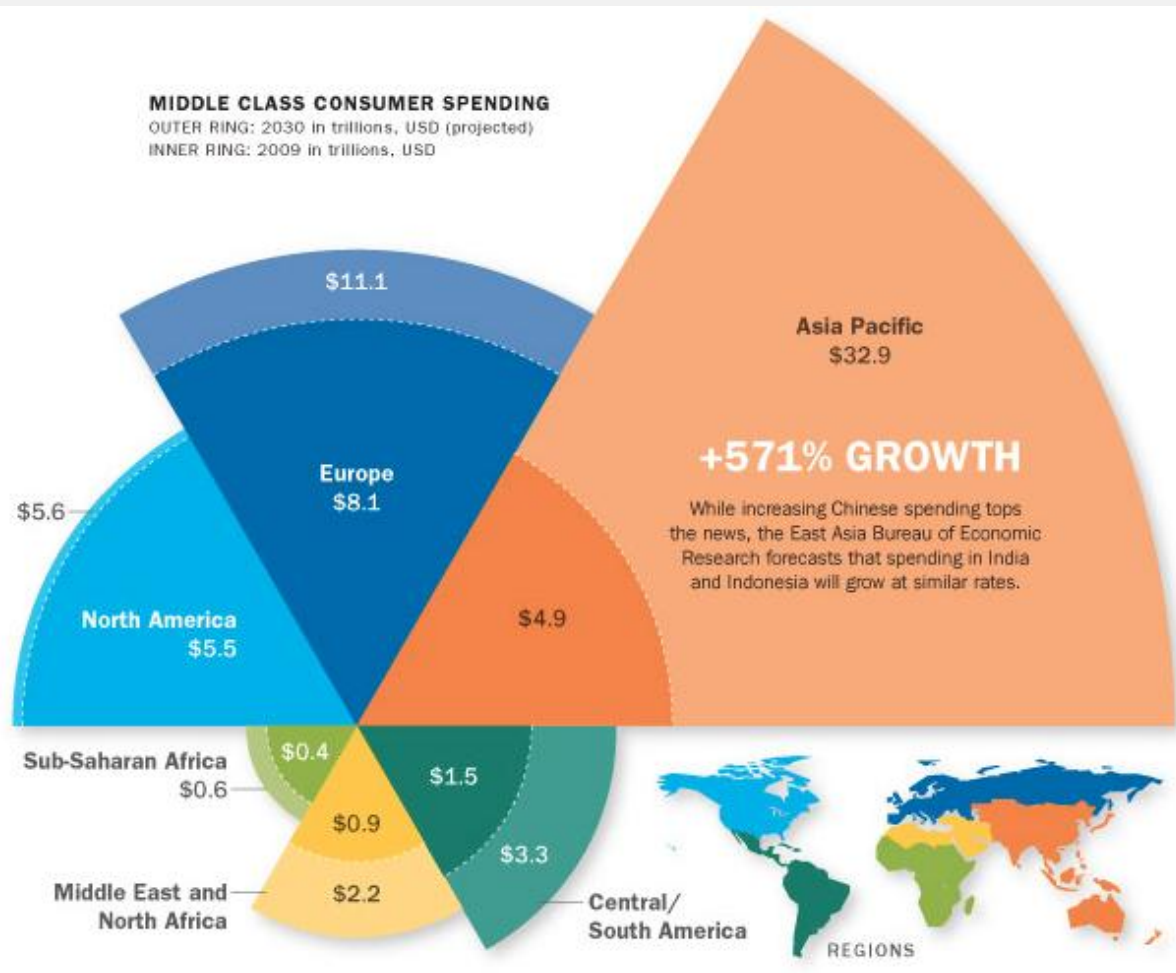
**CONTROLLING VOLATILITY**

**SAVING MONEY \$\$\$**

**INCREASED MARKET SHARE**

**BUILDING CONSUMER TRUST**

# Because of this . . .



Source: Organization for Economic Co-operation & Development (OECD)

# And, News Like This:

- **MISSISSIPPI RIVER: Judge orders EPA to set nutrient standards -- or explain why they're not needed** (*Environment & Energy News*; Sept 24, 2013)
- **Regulation: States Brace for EPA's Emissions Rule on Existing Power Plants** (*Climate Wire*, Sept. 26, 2013)
- **Walmart Highlights Progress on Sustainability Index** (*Walmart Press Release*, Sept. 12, 2013)
- **General Mills Commits to Sustainably Source 10 Priority Ingredients by 2020** (*General Mills Press Release*, Sept. 25, 2013)
- **Chipotle Profits Get a Boost From Increased Traffic** (*Reuters*, Oct 17 2013)





# Walmart's Goals = Driving Change

## By the end of 2013:

- All Walmart and Sam's Club suppliers will be participating in the Sustainability Index answering questions about environmental performance

## By the end of 2014:

- Suppliers are able to answer key questions about the greenhouse gas emissions, water use, waste, animal care practices and other topics of the products they make

## By the end of 2015:

- Suppliers are able to provide details about their goals/program/tracking on productivity while minimizing negative impacts to the environment and community

**CONFIDENTIAL**

# WALMART SUSTAINABILITY INDEX KEY INITIATIVES



## Recycled **UPSWING**



More than 29 million tons of valuable plastics end up in landfills in the U.S. every year. We're working with cities to reclaim plastic and with our suppliers to use more recycled content and make packaging more recyclable.

## Clean & **GREEN**



Sustainable chemistry has come a long way. We're asking suppliers to transition to greener substitutes for priority chemicals in household cleaning, personal care, beauty and cosmetic products.

## Fertilizer **ENERGIZER**



We're working with suppliers who use corn, wheat and soy in their products to use fertilizer more efficiently. We have the potential to reduce fertilizer use on as many as 14 million acres of U.S. farmland by 2020!

## Go **GLOBAL**



We're using the Sustainability Index to improve products around the world. Having previously launched the Index in China, we're now seeing it adopted by our business in South Africa and we are expanding the Index to Walmart Chile and Walmart Mexico next year.

## **POWER** to the People



By selling 500,000 of our private label LED lightbulbs, we estimate that we can save our customers more than \$67 million dollars over the lifetime of those bulbs, which last about twice as long as a CFL and 20 times longer than a traditional lightbulb.

Join the conversation on Twitter with hashtag [#WMTgreen](#) and by following [@WalmartGreen](#). To learn more about sustainability at Walmart, visit [walmartgreenroom.com](#).



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The screenshot shows the Walmart website's 'News & Views' section. The main article is titled 'Global Sustainability Milestone Meeting'. It features a video player with a play button and a 'Like' button. Below the video, there is a 'Date | Time' section indicating the meeting was on Thursday, September 12, 2013 at 10:00 AM CDT. A brief description follows: 'Join us for a live webcast of our Global Sustainability Milestone Meeting. Hear from company leaders and learn more about Walmart's environmental sustainability efforts.' There is also a link to 'Read the Press Release'.

# Unilever

## REDUCING ENVIRONMENTAL IMPACT

By 2020 our goal is to halve the environmental footprint of the making and use of our products as we grow our business.\*

## ENHANCING LIVELIHOODS



By 2020...

### Soy

We will source sustainably all soy beans by 2014 and all soy oils by 2020. more »



## WATER

Halve the water associated with the consumer use of our products by 2020.\*\*

## WASTE

Halve the waste associated with the disposal of our products by 2020.\*

## SUSTAINABLE SOURCING

By 2020 we will source 100% of our agricultural raw materials sustainably.

## BETTER LIVELIHOODS

By 2020 we will engage with at least 500,000 smallholder farmers and 75,000 small-scale distributors in our supply network.



Unilever

# “Chipotle Profits Get A Boost from Increased Traffic”



Executives from the Denver-based chain said visits to its restaurants increased when its animated film and arcade-style game about sustainable food production went viral on Facebook, Twitter and YouTube.

Chipotle's sales at restaurants open at least 13 months, a closely watched gauge of industry performance, **were up 6.2 percent for the latest quarter**, more than the average analyst estimate of 4.7 percent compiled by Consensus Metrix.

Third-quarter net income at Chipotle increased 15 percent from the year earlier to \$83.4 million, or \$2.66 per share.

# How does it all add up?



Fewer  
Natural  
Resources



More  
People to  
Feed



Extreme  
Weather



Expanded  
Buying Power  
and Shifting  
Consumer  
Preferences

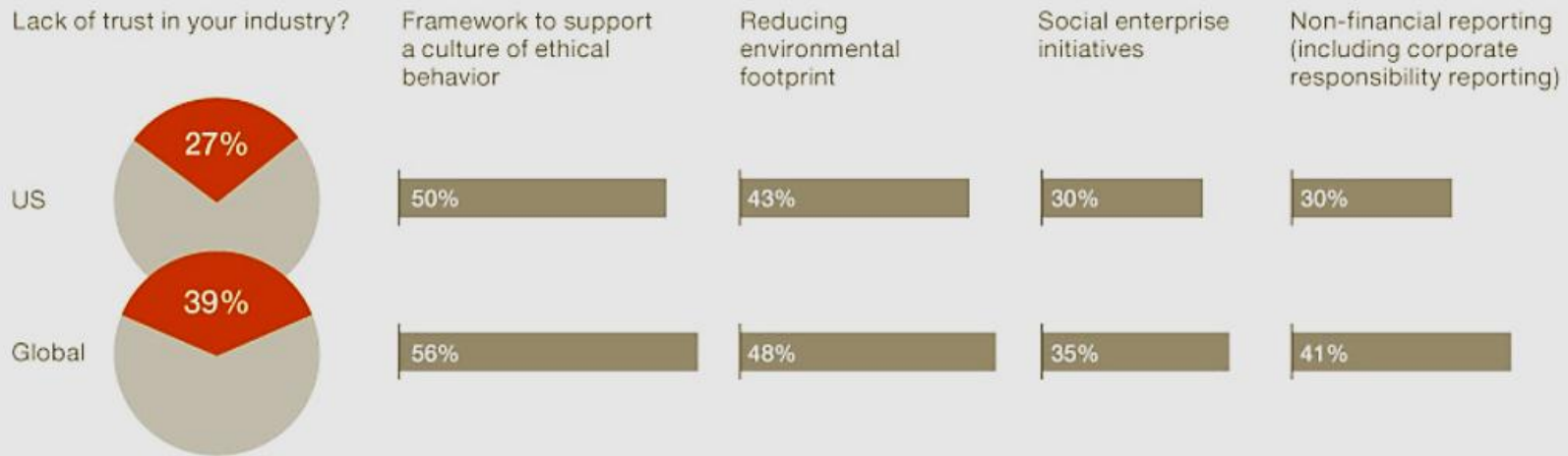


- **Supply Chain Disruptions**
- **High Volatility**
- **Higher Cost of Doing Business**

# U.S. CEOs Focusing on Sustainability

## Environmental and social issues get more CEO attention

How concerned are you about lack of trust in your industry as a threat to your growth prospects? To what extent does your organization plan to focus on the following priorities over the next 12 months?



Base: US: 167; Global: 1,330. Respondents who stated 'extremely' or 'somewhat concerned' and 'increase our focus somewhat' or 'increase our focus significantly.'  
Source: PwC, 16th Annual Global CEO Survey, January 2013.

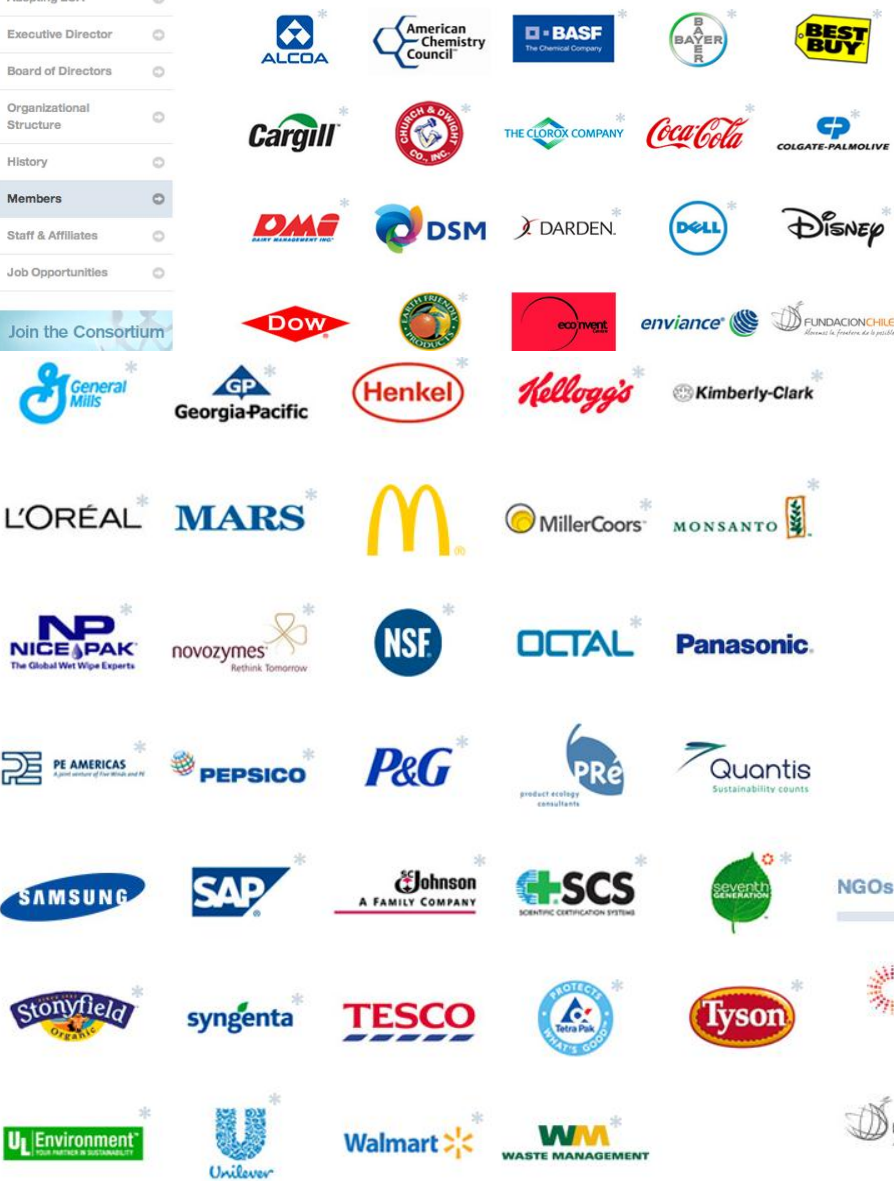
[Download image file](#) [Share](#) [Twitter](#) [Facebook](#) [LinkedIn](#) [Pinterest](#)

- About
- About The Consortium
- Why Join?
- Adopting LCA
- Executive Director
- Board of Directors
- Organizational Structure
- History
- Members**
- Staff & Affiliates
- Job Opportunities
- Join the Consortium

Members

Tier 1 Members

\*Asterisk Denotes Founding Member



Tier 2 Members



NGOs and Government



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NGOs and Government





## Sustainability Measurement and Reporting System Knowledge Products

### COLLECT

**Category Dossier**  
Collection of evidence on product category and its supply chain, environmental and social hotspots, and improvement opportunities.

**Table of Contents**

1. Introduction
2. Category Overview
3. Hotspots
4. Environmental/Social Outlets
5. Social Metrics Database
6. Environmental/Social/Policy Context
7. Related Resources/Documentation/Performance Indicators
8. Glossary/Abbreviations

**Beef Introduction**

Beef is most produced from cattle. This dossier extensively provides an overview of sustainability issues in beef. All the content focuses on the dossier available. The report related to cattle is for global production. Following environmental hotspots are identified for the ecological impact: climate change, energy use, water, economic, disaster and sustainability, biodiversity, labor availability, animal care for local consumers.

Challenges/opportunities include: crop production and/or management of pastures for beef feed cattle, reproduction practices and use of fertilizers, pesticides, herbicides, feed and/or feed additives, processing and/or feed and beef products. Environmental hotspots/ issues are beef supply to meet and cattle farms for beef. Related to beef production, climate can be kept on pasture, to be used as a source. Cattle can be a source.

Collection of evidence on product category and its supply chain, environmental and social hotspots, and improvement opportunities

### SYNTHESIZE

**Category Sustainability Profile (CSP)**  
Synthesis of product sustainability knowledge and improvement opportunities.



The screenshot shows a dashboard titled "Category Sustainability Profile" with a "Category Overview" section. It includes an "Introduction to Category Sustainability Profile" and a "Key Metrics" section with various charts and data points.

Synthesis of product sustainability knowledge and improvement opportunities

### MEASURE

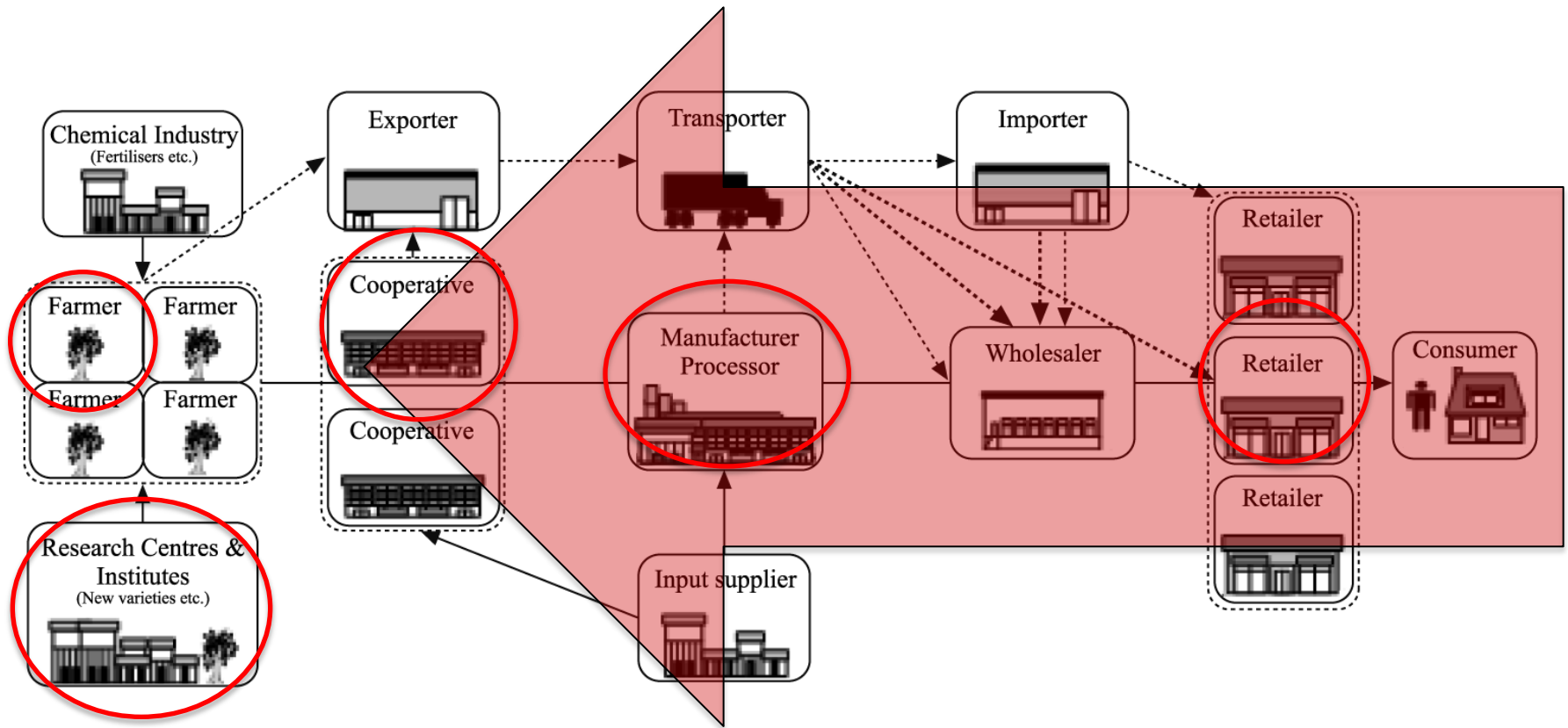
**Key Performance Indicators (KPI)**  
Metrics/questions to measure and track product category sustainability.



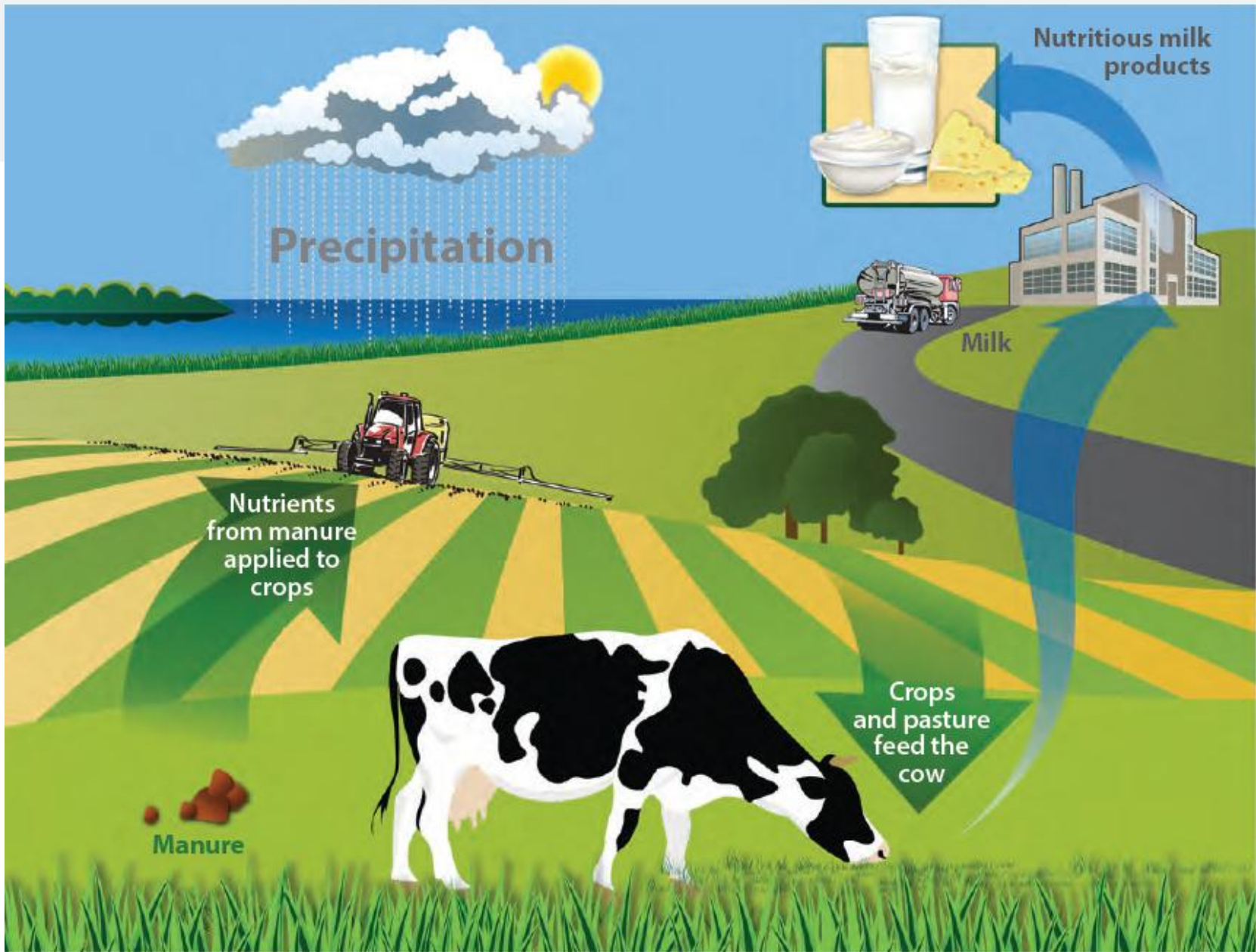
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Metrics / questions to measure and track product category sustainability

# Stresses Affecting Entire Supply Chain

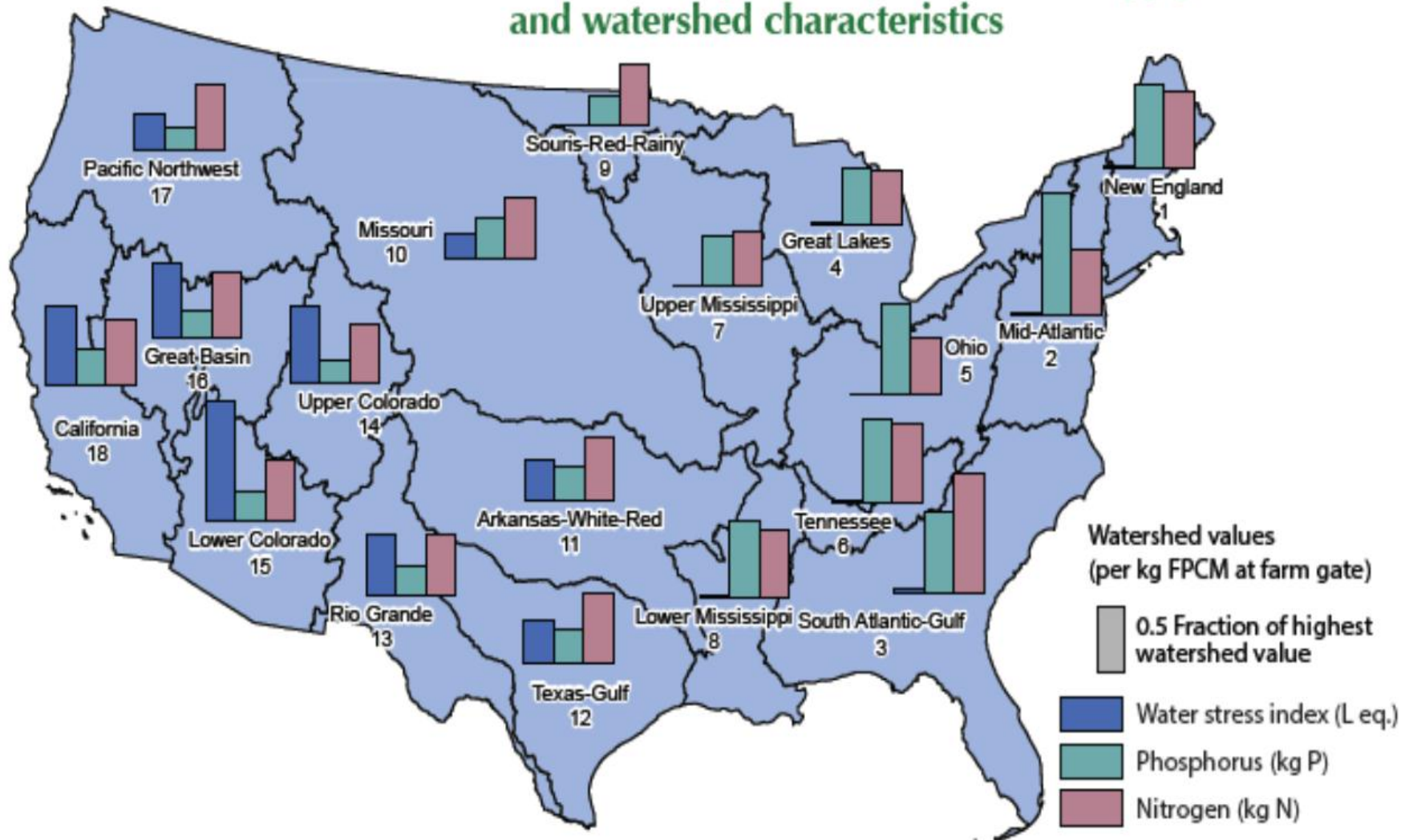


# WHAT DOES THIS MEAN FOR YOU AND YOUR FARM?



U.S. Dairy's Environmental Footprint: A summary of findings 2008-2012. Innovation Center for U.S. Dairy. 2013.

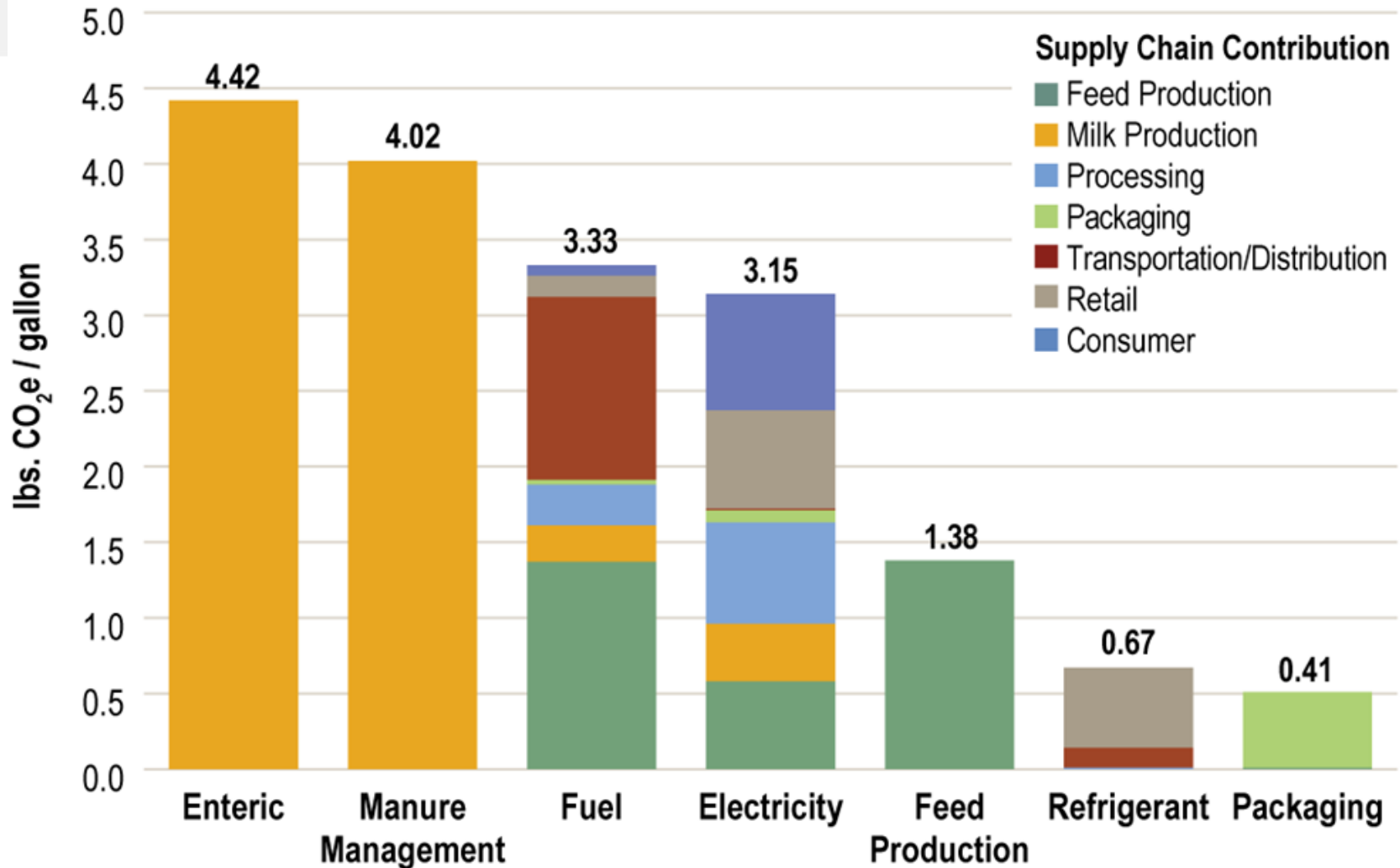
## Water is a local issue impacted by both water supply and watershed characteristics



Henderson, A., Asselin, A., Heller, M., Vionnet, S., Lessard, L., Humvert, S., Saad, L., Margni, M., Thoma, G., Matlock, M., Burek, J., Kim, D., and Jolliet, O. U.S. Fluid Milk Comprehensive LDA. University of Michigan and University of Arkansas, 2012.

# Primary Sources of Greenhouse Gas Emissions for Fluid Milk in the U.S.

Carbon footprint = 17.6 lbs. CO<sub>2</sub>e per gallon of fluid milk

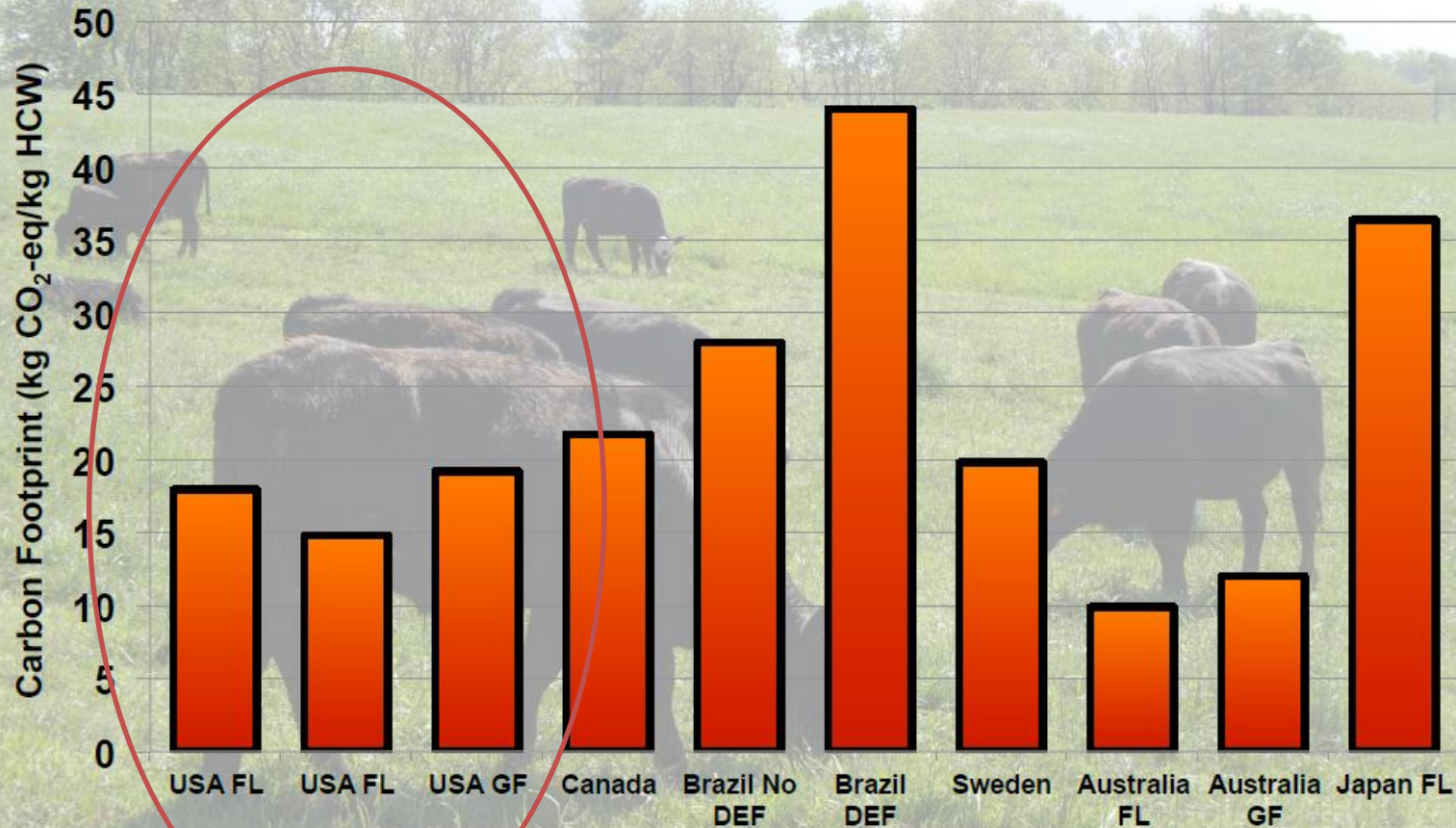


Sources related to waste are not included.

Source: Thoma et al., Greenhouse Gas Emissions of Fluid Milk in the U.S., University of Arkansas, 2010.

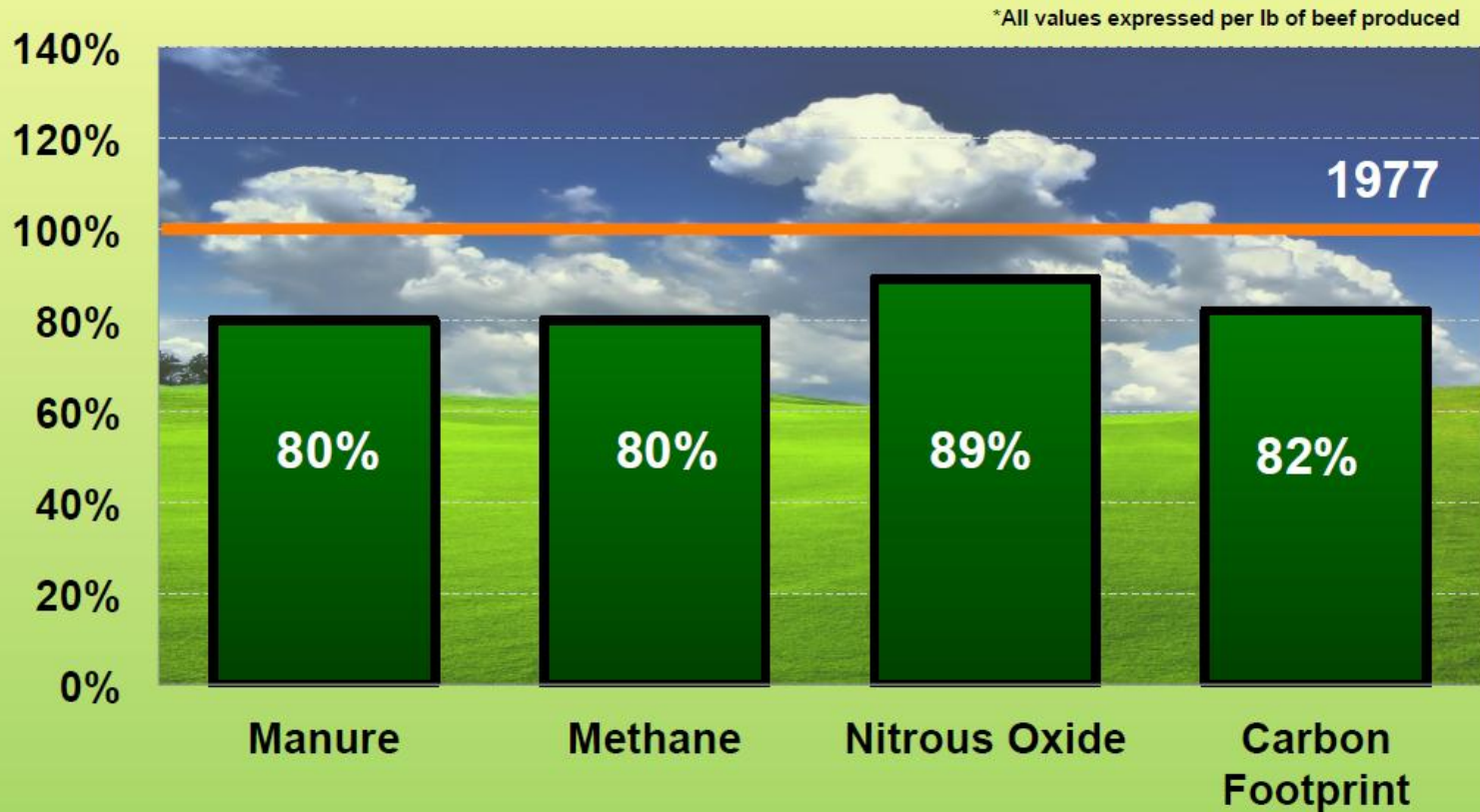
Available at [USDairy.com/Sustainability](http://USDairy.com/Sustainability)

# Estimates of Beef's Carbon Footprint Vary Between System and Region



Source: Capper ((2011), Replacing Rose-Tinted Spectacles with a High-Powered Microscope: The Historical vs. Modern Carbon Footprint of Animal Agriculture Animal Frontiers (in press); FL = Feedlot, GF = Grassfed, DEF = Deforestation

# Environmental Impact of U.S. Beef Production has been Reduced by Improved Productivity



Source: Capper, J. L. (2010). Comparing the Environmental Impact of the U.S. Beef Industry in 1977 to 2007. Greenhouse Gases and Animal Agriculture Conference, Banff, Canada



# KPI Example

## KPI 22: ENERGY CONSUMPTION - ANIMAL FARM OPERATIONS

### I. Scope

Supply Chain Engagement

### II. Relevance/Rationale

Hotspots: Energy consumption - Animal farm operations

Improvement Opportunities: Use anaerobic digesters on-farm; Use idle reduction strategies on-farm

### III. Question

What is your organization's approach to addressing impacts from energy use on animal farm?

### IV. Answer Options

- A. Unable to determine at this time.
- B. Actively participate in an external, multi-stakeholder initiative that is addressing this issue.
- C. Have documented strategies in place to address this issue, through collaboration with our supply chain, that encourage energy management plans and benchmarking.
- D. In addition to (C), the following percentage of this product's supply has an energy management program in place that has been third-party reviewed and can demonstrate improvement on this issue:
  - D1. \_\_\_%.



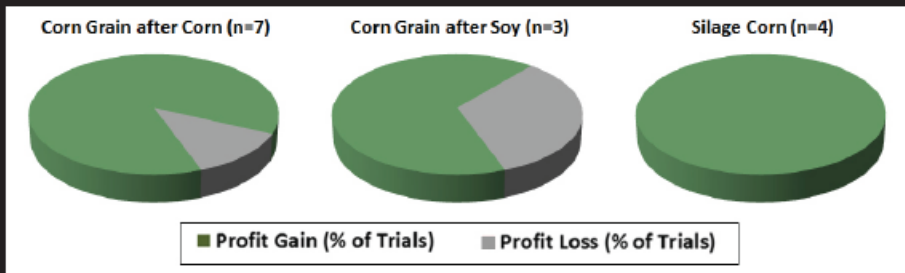
# TOOLS THAT HELP MEET THIS DEMAND...



Adapt-N: A tool for adaptive nitrogen management in corn production.

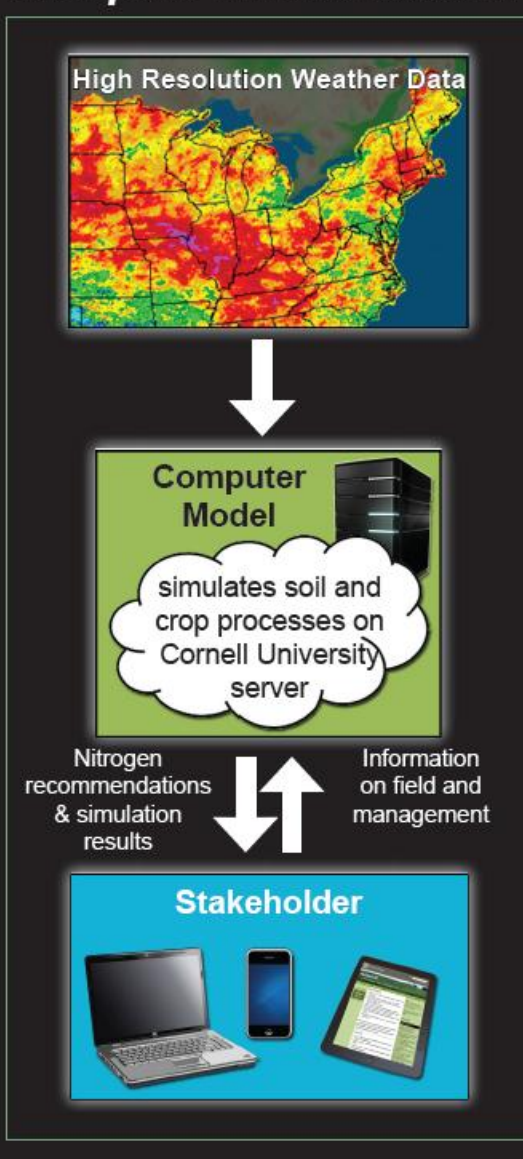


## Adapt-N Increased Grower Profits



Proportion of 2011 trials by crop showing profit gains (green, average of \$35/ac in 2011, 86% of trials) or losses (gray) as a result of using the Adapt-N recommendation compared to current grower N management. Profit calculations assume \$5.50/bu grain, \$50/T silage, and \$0.60/lb N.

## Adapt-N Infrastructure





*Farmers working with the On-Farm Network® use precision agriculture tools and technology to discover, accurately validate, and increase the use of the right combinations of inputs and practices that improve efficiency, profitability and environmental stewardship.*

## QUICKSTART CHECKLIST

| Feed Production   | Total Pounds, Bushels, Tons (annual) | Total Acreage           |
|---|--------------------------------------|-------------------------|
| Pasture   | lbs.                                 | acres                   |
| Corn Grain  | bushels                              | acres                   |
| Corn Silage   | tons                                 | acres                   |
| Soybean, raw or roasted                                 | bushels                              | acres                   |
| Alfalfa Hay   | tons                                 | acres                   |
| Alfalfa Silage  | tons                                 | acres                   |
| Grass Hay   | lbs.                                 | acres                   |
| Grass Silage  | lbs.                                 | acres                   |
| All Other Feed  | tons                                 | acres                   |
| Herd  | Number of Animals (annual average)   | Average Weight (pounds) |
| On-farm heifer calves < 2 mos.                          |                                      | lbs.                    |
| Off-farm heifer calves < 2 mos.                         |                                      | lbs.                    |
| On-farm heifers 2 mo. – 1st calf                        |                                      | lbs.                    |
| Off-farm heifer 2 mo. – 1st calf                        |                                      | lbs.                    |
| Lactating Cows  |                                      | lbs.                    |
| Dry Cows  |                                      | lbs.                    |
| Ration  |                                      |                         |
| Average Dry Matter Intake (DMI) for herd (lbs./cow/day) | lbs.                                 |                         |




**INNOVATION CENTER FOR U.S. DAIRY.** HEALTHY PEOPLE • HEALTHY PRODUCTS • HEALTHY PLANET

# Determine your dairy farm's environmental footprint

**Farm Smart™ 1.5**  
 Farm Smart 1.5 provides dairy producers with their farm's environmental footprint. It also allows them to compare energy use, greenhouse gas (GHG) emissions and water use against regional and national averages compiled by the U.S. Dairy Industry's Comprehensive Life Cycle Assessment for Fluid Milk.

[Learn more about Farm Smart >>](#)

 **GET STARTED >>**

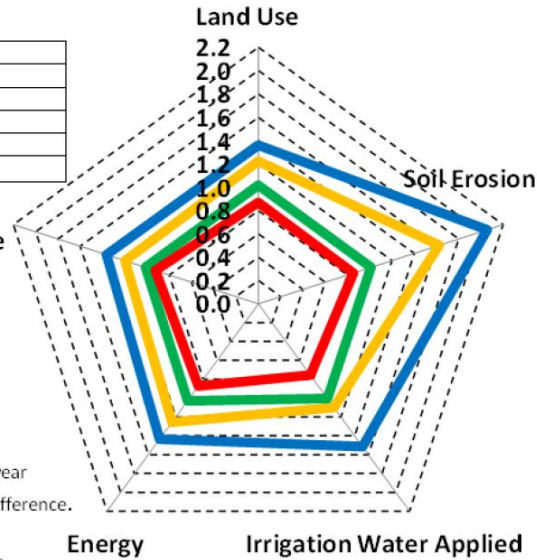
## Index of Per Bushel Resource Impacts to Produce Corn for Grain (United States, Year 2000 = 1)

| Year                     | 2000 * | Unit - per Bushel        |
|--------------------------|--------|--------------------------|
| Land Use                 | 0.008  | Planted Acres            |
| Soil Erosion             | 0.038  | Tons                     |
| Irrigation Water Applied | 0.242  | Acre Inches              |
| Energy                   | 47,779 | Btu                      |
| Greenhouse Gases         | 13.0   | Pounds CO <sub>2</sub> e |

\* Five-year average 1996 - 2000

- 5 Yr. Avg. 1980 - 84
- 5 Yr. Avg. 1987 - 91
- 5 Yr. Avg. 1997 - 01
- 5 Yr. Avg. 2007 - 11

Greenhouse  
Gases



Note: Data are presented in index form, where the year 2000 = 1 and a 0.1 point change is equal to a 10% difference. Index values allow for comparison of change across multiple dimensions with differing units of measure.

Index of Per Bushel Resource Impacts to Produce Corn for Grain, United States, 1980-2011



## Field to Market Members

Field to Market brings together a diverse group of grower organizations; agribusinesses; food, fiber, restaurant and retail companies; conservation groups; universities and agency partners to focus on promoting, defining and measuring the sustainability of food, fiber and fuel production.



For the most current member list, visit [www.fieldtomarket.org/members](http://www.fieldtomarket.org/members)

Sustainable Supply Chain Risk Management Services

# NAVIGATING COMPLEX EMERGING SUPPLY CHAINS

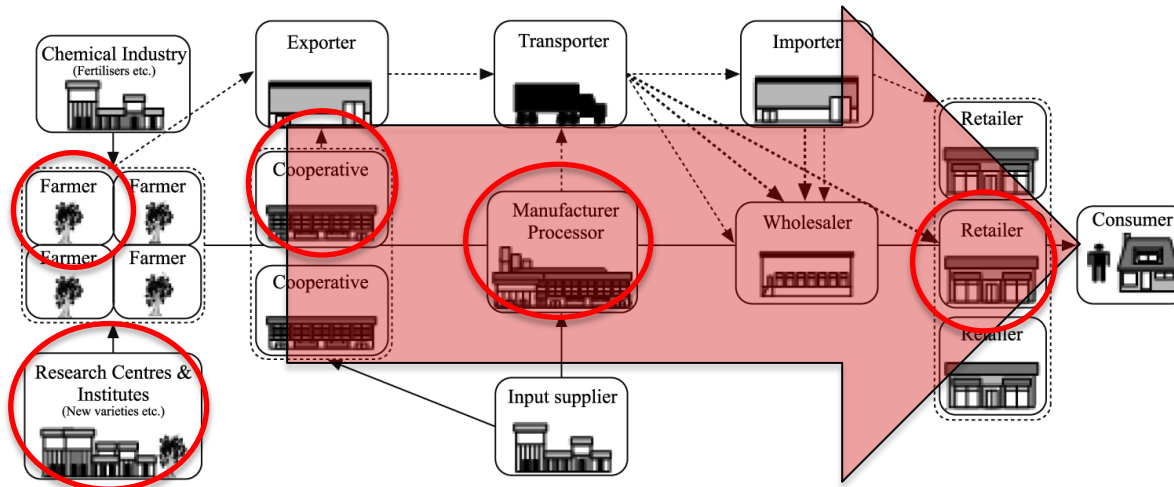


# What's your best defense?

- Know what is coming—who wants what and why do they want it?
- Start gathering your data
  - Where do you stand against others?
- Understand the “value” of your data!
- Think carefully about who you want to manage or “know” your data



# We Help Operations Assess, Navigate and Find a Better Market Position



Retail Influence

Governmental Influence

# The “new” market—what you might need to thrive





So be ready!

