

Körber Supply Chain

# Master Class Series

Today's Class:  
Technologies Enabling Sustainability



# Today's Speaker



**Thomas Goldsby**

Professor

James A. Haslam, II Chair of Logistics  
The University of Tennessee Knoxville

Why are we here? What are we trying to accomplish?

### Class Schedule:

Tuesday, February 9: Energy Efficiency and Cold Chain

Tuesday, February 16: Dark Warehouse Efficiencies: How Close Are We?

Thursday, February 25: Paper-Free Warehouse: What Tech Can Get You There?

### Master Class Series – On-Demand

- *Addressing Labor Challenges*
- *Cold Storage Trends*
- *Warehouse Technology Excellence*
- *Workplace Efficiencies & Safety*
- *SAP Supply Chain Excellence*
- *Disruption Mitigation*

# Housekeeping



All phone lines are muted

Recording of today's class and slides will be emailed to you within 48 hours

Questions:

- Ask questions during today's class in the GoToWebinar Questions window
- Questions will be addressed at the end of today's class or we will follow up via email after class

Handout: *15 Ways to Improve Sustainability in Your Warehouse*

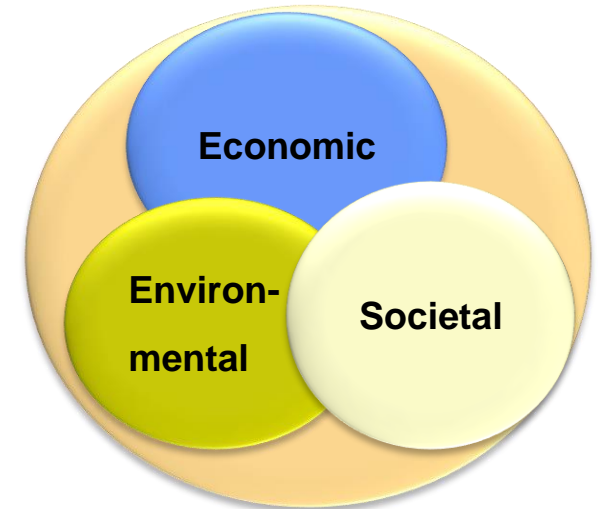
Poll Question: How are you implementing sustainability in your business?

# Sustainability – Level Set



**Sustainable Development:** “to meet the needs of the present without compromising the ability of future generations to meet their own needs”<sup>1</sup>

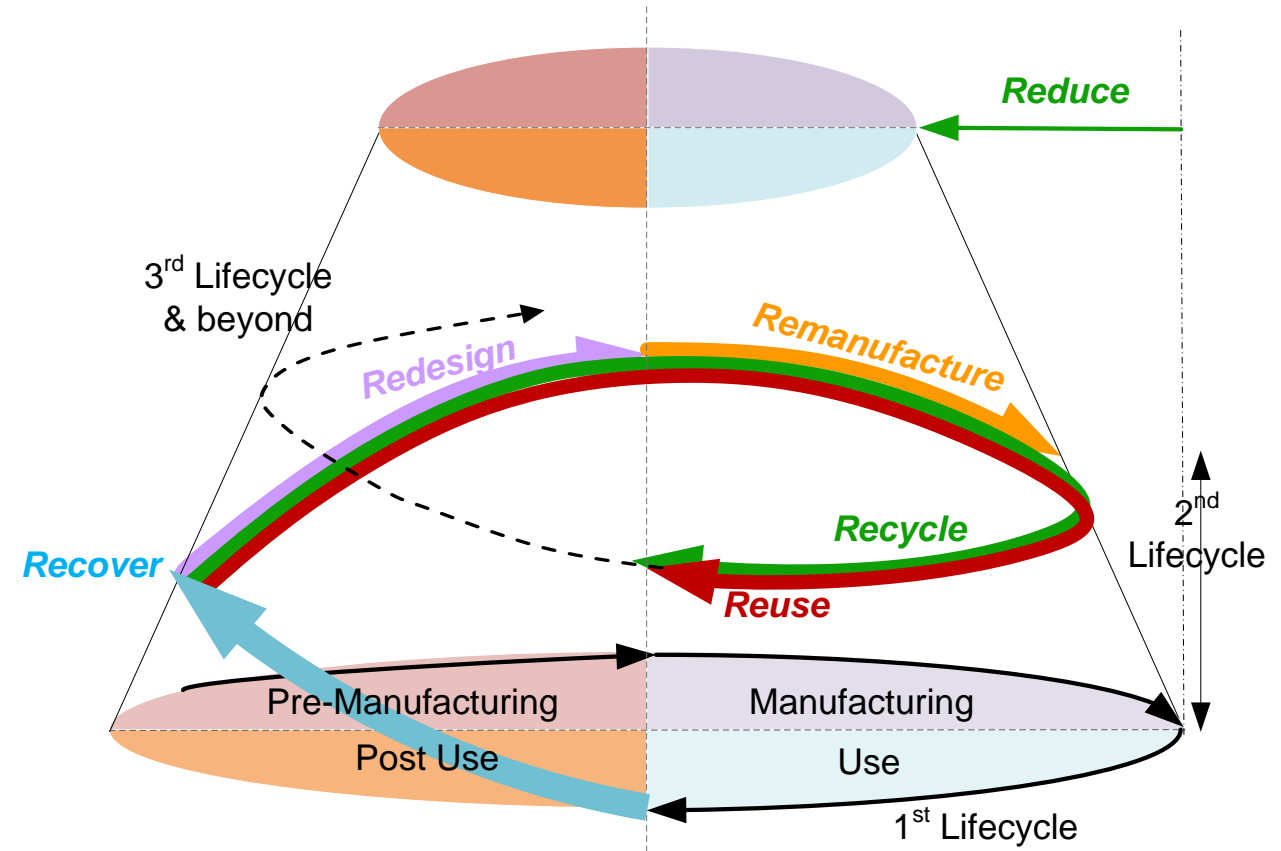
In a business context: Focus on the ***triple bottom line***<sup>2</sup> (economic, environmental, and societal outcomes)



[1] UNWCED, 1987; 2) Elkington, 1998]

# What is a Sustainable Supply Chain?

- Triple bottom-line emphasis on economic, environmental and societal considerations
- Total product lifecycle (pre-manufacturing, manufacturing, use and post-use ) focus
- Multiple product lifecycle emphasis through the integration of 6Rs to close the loop on conventional supply chains
- Increased collaboration and visibility by seamless information sharing across entities in the supply chain



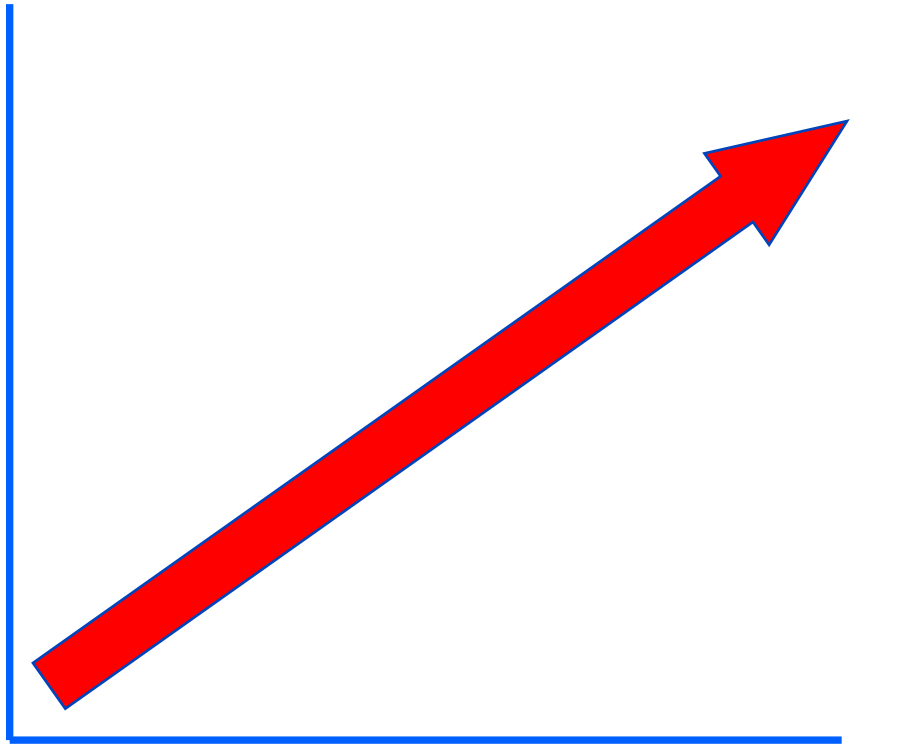
The Closed-Loop Supply Chain

# Expecting More of Our Supply Chains & Logistics

Sustainability Adds a Dimension of Complexity to the Classic Problem



**Service**  
(Fill rate,  
Speed,  
Reliability)



**Cost  
Efficiency**  
(Savings)

**Service**  
(Fill rate,  
Speed,  
Reliability)



**Sustainability**  
(Social & Environmental  
Benefits)

**Cost  
Efficiency**  
(Savings)

# Why does it matter?

Today's Diabolical Consumer Expects....

High availability → the perfect order every time

Greater variety → customization

Shorter lead times → next-day/same-day/same-hour

More empathy → “immaculate recovery”

Competitive pricing → price beaters

Low-cost shipping → free shipping

Liberal returns policies → no-questions-asked, free returns

High-quality products → Environmental & societal awareness

Mental shifts from “or” to “and”

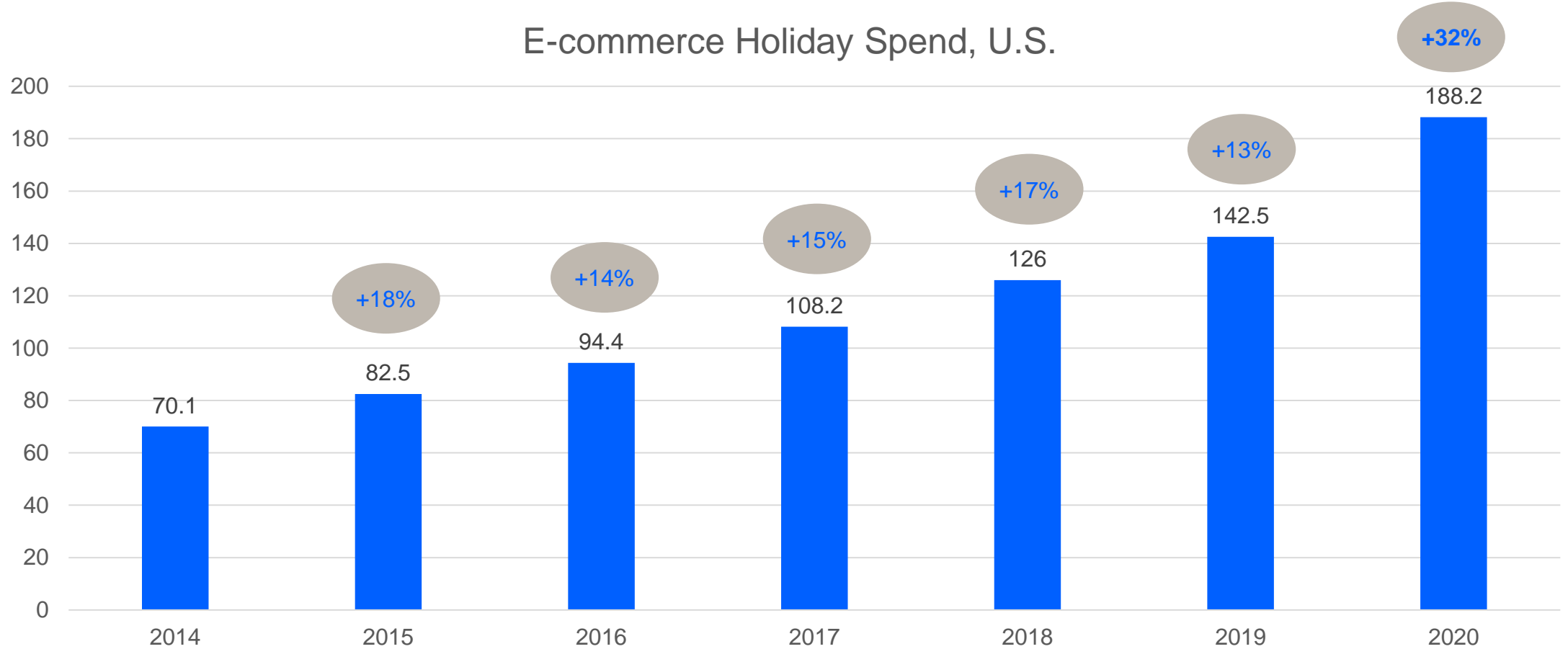


# A Pressing Challenge to Sustainability

Customer Demands are at Odds



### E-commerce Holiday Spend, U.S.



30% of e-commerce products come back (compared to ~7% brick-and-mortar retail)



# Reframe the Problem

Lean → Green → Sustainable



“We had a real issue in that we had a corporate sustainability and risk group, and we had a language problem, and we had a translation problem.

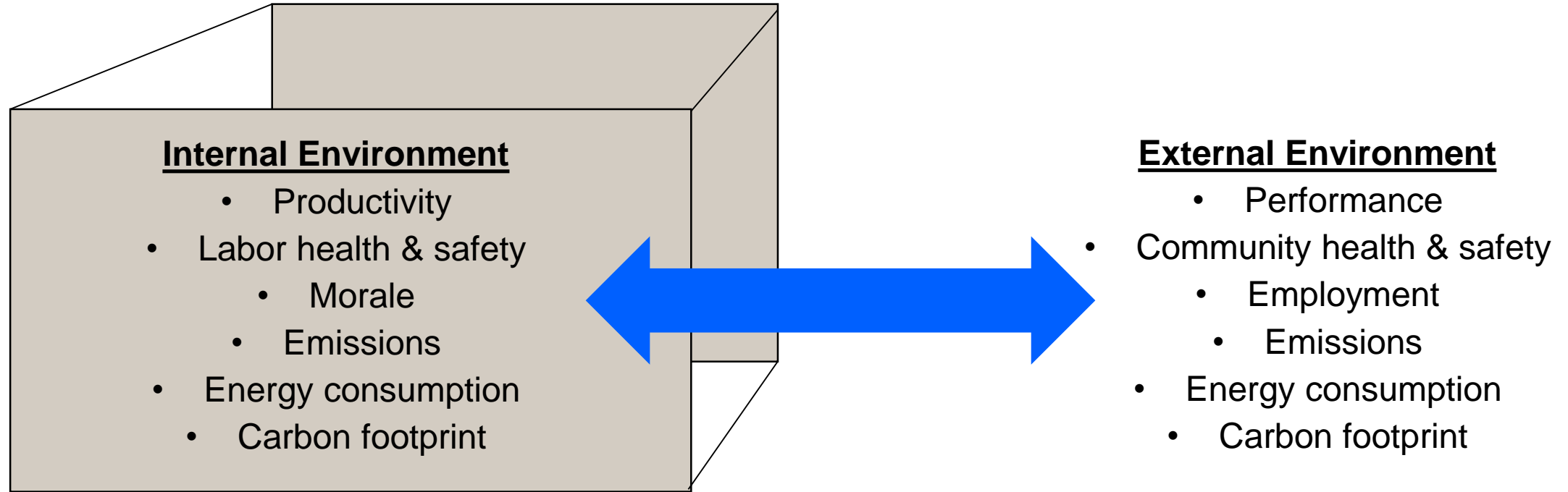
They were talking about ‘pounds of CO<sub>2</sub>’ and that meant nothing to my team in transportation. When we actually broke it down and said ‘how do pounds of CO<sub>2</sub> relate to what we actually do as supply chain operations?’ we actually got engagement around the team to be able to talk about how we’re trying to route trucks so that we drive fewer miles. **My team gets that we want to put more in trucks, we want to back-haul trucks... now we get that!”**

- Actions that simplify work, reduce non-value-added steps
- ↓
- Processes that are faster, more reliable, and safer
- ↓
- Workers that are invested, safer, prouder, more productive
- ↓
- Customers and suppliers that are more loyal and invested

Diane A. Mollenkopf & Wendy L. Tate, “Lean and Green Supply Chains,” *CSCMP Explores* (2012)

# We Have TWO Environments in Warehousing

What Happens Inside the Box Affects Those Outside It, Too



Good performance in both environments contributes to a business that people want to work for, other organizations want to do business with, and regulators don't have to fret about.

# Advanced Technologies Taking Us to a Higher Plane



What is the role of digitalization?



SEEING	THINKING	DOING
Illuminating product and process flows across the enterprise and throughout the supply chain	Making connections (obvious and not) faster than human logic	Employing non-human labor to assist or autonomously perform work processes
End-to-End Supply Chain Visibility	Artificial Intelligence	Autonomous Operations
SaaS & Cloud-based systems	Machine Learning	Collaborative Robots (“Cobots” and RaaS)
RFID, Internet of Things, & 5G Connectivity	Descriptive Analytics	3D Printing
Supply Chain Event Management, Blockchain	Predictive Analytics	Mass Customization

Körber Supply Chain

**Master  
Class  
Series**

Technologies Enabling Sustainability

Source: Stank, Esper, Goldsby, Autry & Zinn (2019)

# Summary



Sustainability calls for a broader, more holistic view to the business

Often it's a matter of reframing the problem and measuring different inputs and outputs

→ Add sustainability to your value stream mapping efforts

Advanced technologies can make our operations smarter, more efficient & higher performing

The sooner you experiment, the quicker you'll learn, gain advantage, and see benefits

Like quality, sustainability pays for itself

# Questions & Discussion

## Energy Efficiency in Cold Chain

February 9<sup>th</sup> – 12:00-12:30pm EST

It takes a lot of energy to keep a cold chain running, but what can you do to make your cold chain greener? Join Mark Vogt on February 9th to learn how automation can help improve sustainability and energy efficiency in the cold chain.

### Mark Vogt

Head of International Sales & Marketing  
Körber Supply Chain

