

Sustainable Supply Chain & Transportation Conference Van Horne / University of Calgary Calgary AB

Thursday November 26, 2015

Continuous Improvement Optimizing While Adding Sustainability to the Supply Chain

Martin Kelly,
Logistics Consultant

Wheels History (Brief version)

- **Founded** – 1988 in Toronto as a non-asset Intermodal Agent & Freight Broker
- **Status** – 1997 became a true Third Party Logistics company (3PL)
- **Annualized growth rate:** > 25%. Revenues in 1997 - \$10M and in 2014 - \$350M
- **Acquisitions Start 2006** -Clipper Express, then MBX, Synergex, BBM and MSM.
- **Wheels is purchased in April 2015 by Radiant Global Logistics (NYSX)** doubling mutual annual sales volume of >\$700million.
- Note: the 3PL industry is an a very active M&A period. Why –continued demand & growth

About Wheels

- Leading non-asset 3PL provider offering integrated transportation, logistics and supply chain solutions
- Non-asset model enabling highly scalable growth, flexibility to shift modes, markets, services
- Full range of transportation solutions delivered through qualified partner network including CN, CP all Class I US Railways & over 6,000 highway carriers
- 26 offices, approximately 400 staff
- Radiant Global now adds over many more offices & resources but focused as a international freight forwarder

Accreditations



Canada's 50 Best -
17 Consecutive Years



Food Logistics Top 100 3PL
2009 - 2015



2014 Shipper Choice
Award



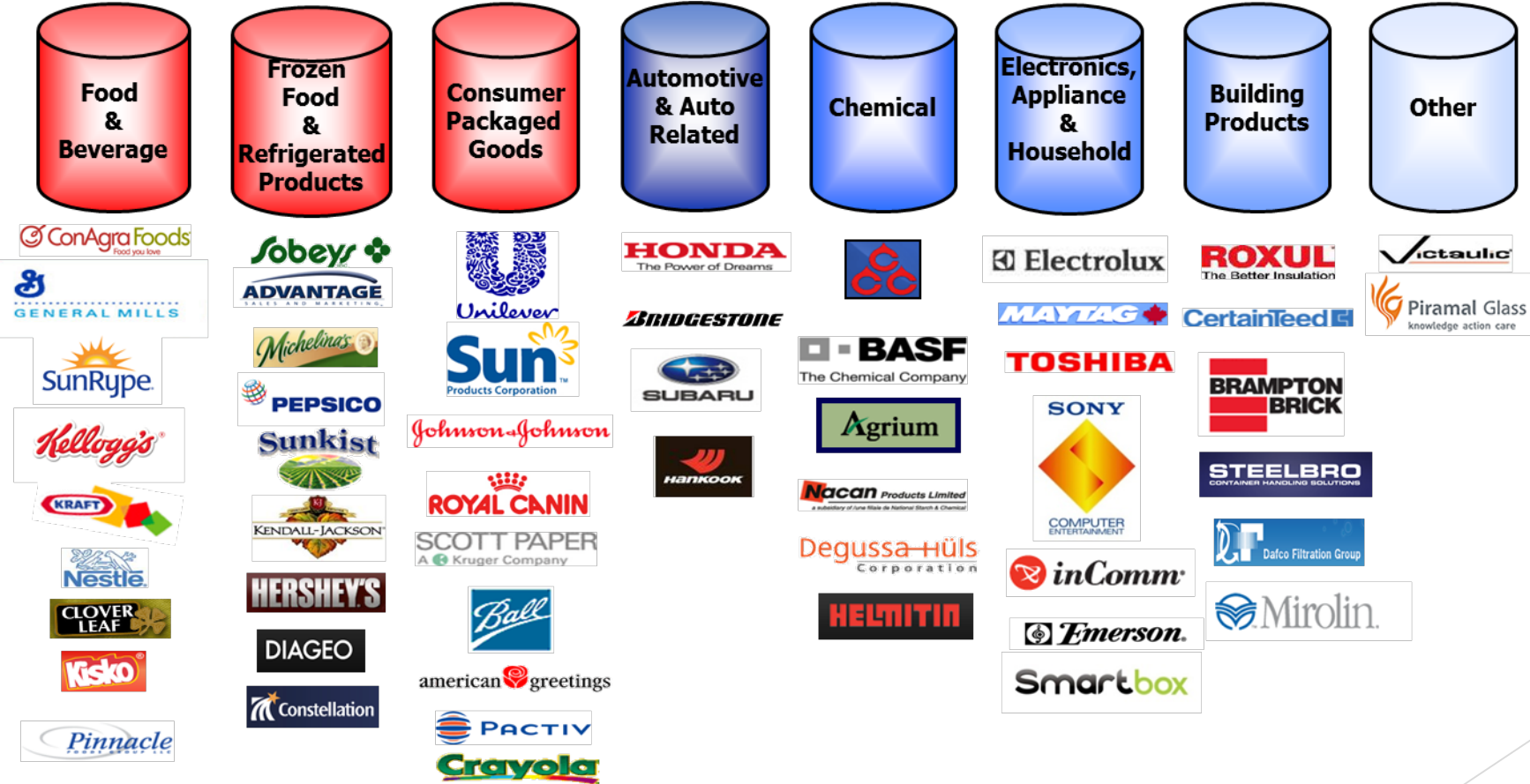
ISO 9001 Registered
Since 2001



Inbound Logistics Top 100 3PL
2005 - 2012



Business Verticals



All Retailers Served



Meeting The Green Transport Challenge

Cargo Logistics Canada Conference

Vancouver BC. January 2015

Credits & Acknowledgements

- ▶ **Moderator:** Dr. Garland Chow, Associate Professor of Logistics, Supply Chain Management, UBC
- ▶ Greg Kraliz, Leader, National Distribution, Nestlé Canada Inc.
- ▶ Eric Oostindie, General Manager, Blue Chip Logistics Inc.
- ▶ Martin Kelly, Wheels International - Radiant Global Logistics

*Same as in Vancouver, let's be very
clear--*

*Greenhouse Gas Emissions (GHG) from
Freight Transportation are Significant
and Growing*


Not a premise - It's a FACT!

Recently,
We Thank You Omni-channel

Let us also understand that a significant amount of emissions is produced by your upstream suppliers

Why is Supply Chain so important?

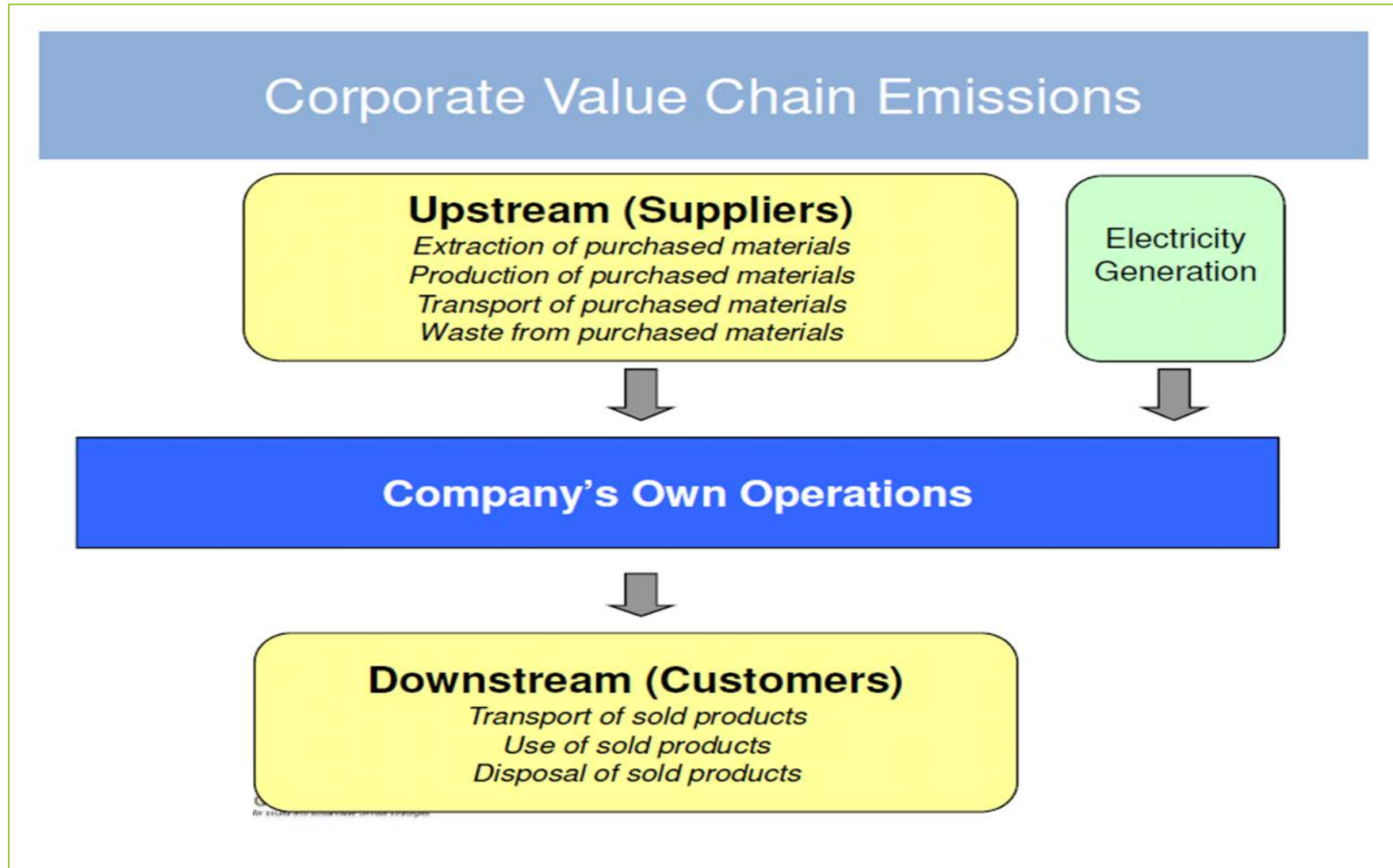
CARBON DISCLOSURE PROJECT



“Our analysis suggests that for consumer goods makers, high-tech players, and other manufacturers, between 40 and 60 percent of a company’s carbon footprint resides upstream in its supply chain—from raw materials, transport, and packaging to the energy consumed in manufacturing processes. For retailers, the figure can be 80 percent.”

McKinsey Quarterly, 2008

Finally, we can also include the “downstream”!



Web survey of 169 shippers & 3PLs who purchase transportation

Sustainable Transportation: Lessons from the Green Shipper Survey

On behalf of SCMA
conducted by Prof.
Garland Chow UBC
Sauder School of
Business. Funded by
Natural Resources
Canada (NRC) Jan.
2014





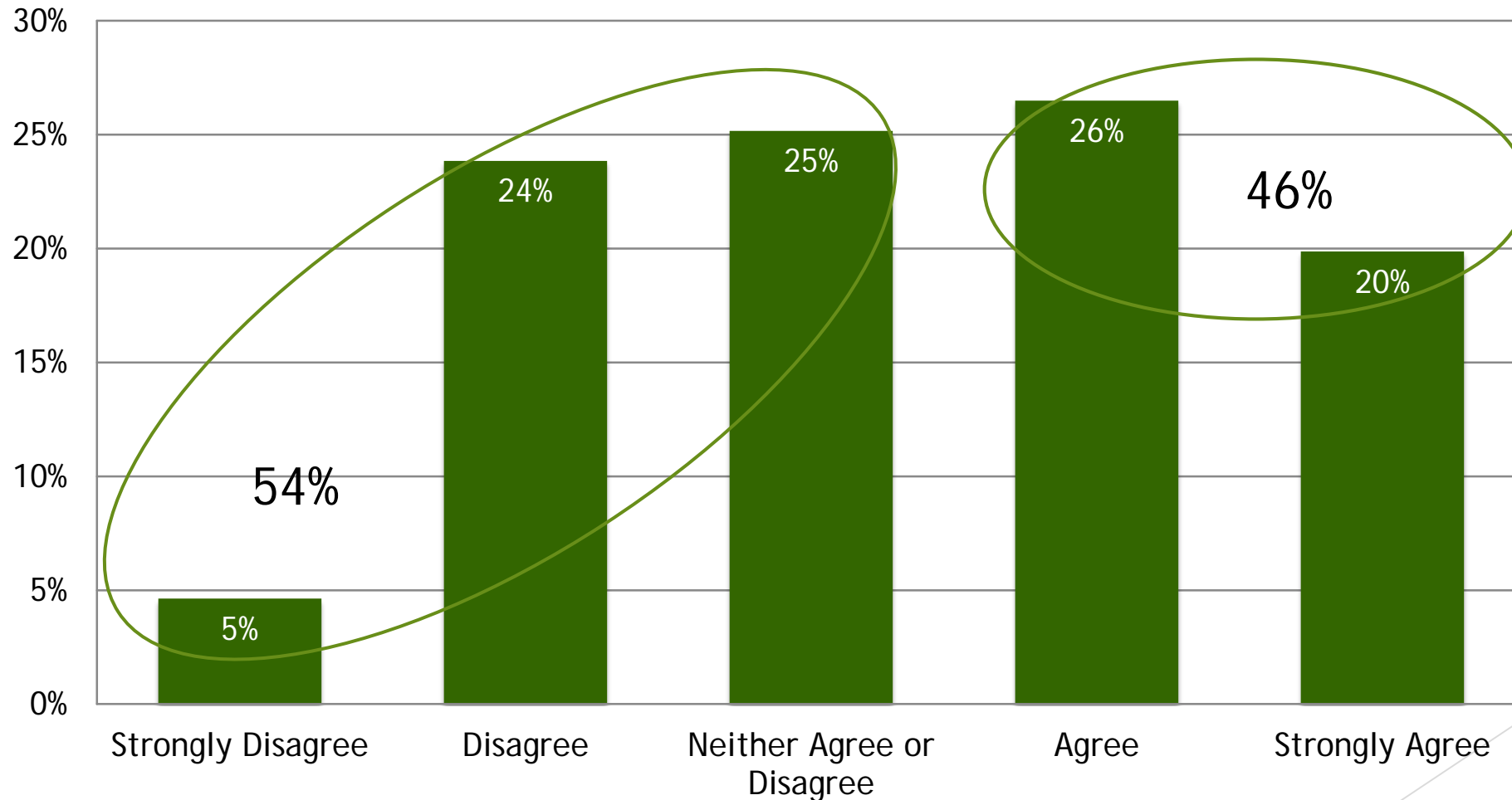
- ▶ Initially a US EPA program but now adapted by Canada under NRC
- ▶ Carriers fill in data fields & profile which then calculates their GHG emissions and other sustainability factors
- ▶ Provides free standardized reporting tools and resources to help carriers become more efficient & sustainable in a simplified manner.
- ▶ Allows carriers to benchmark and measure their progress against their industry peers
- ▶ Gives shippers a yardstick to measure their participating carrier partners GHG emissions
- ▶ Shippers can use carrier data to accurately report their own carbon footprint and drive to improvements

Meeting the Green Transportation Challenge

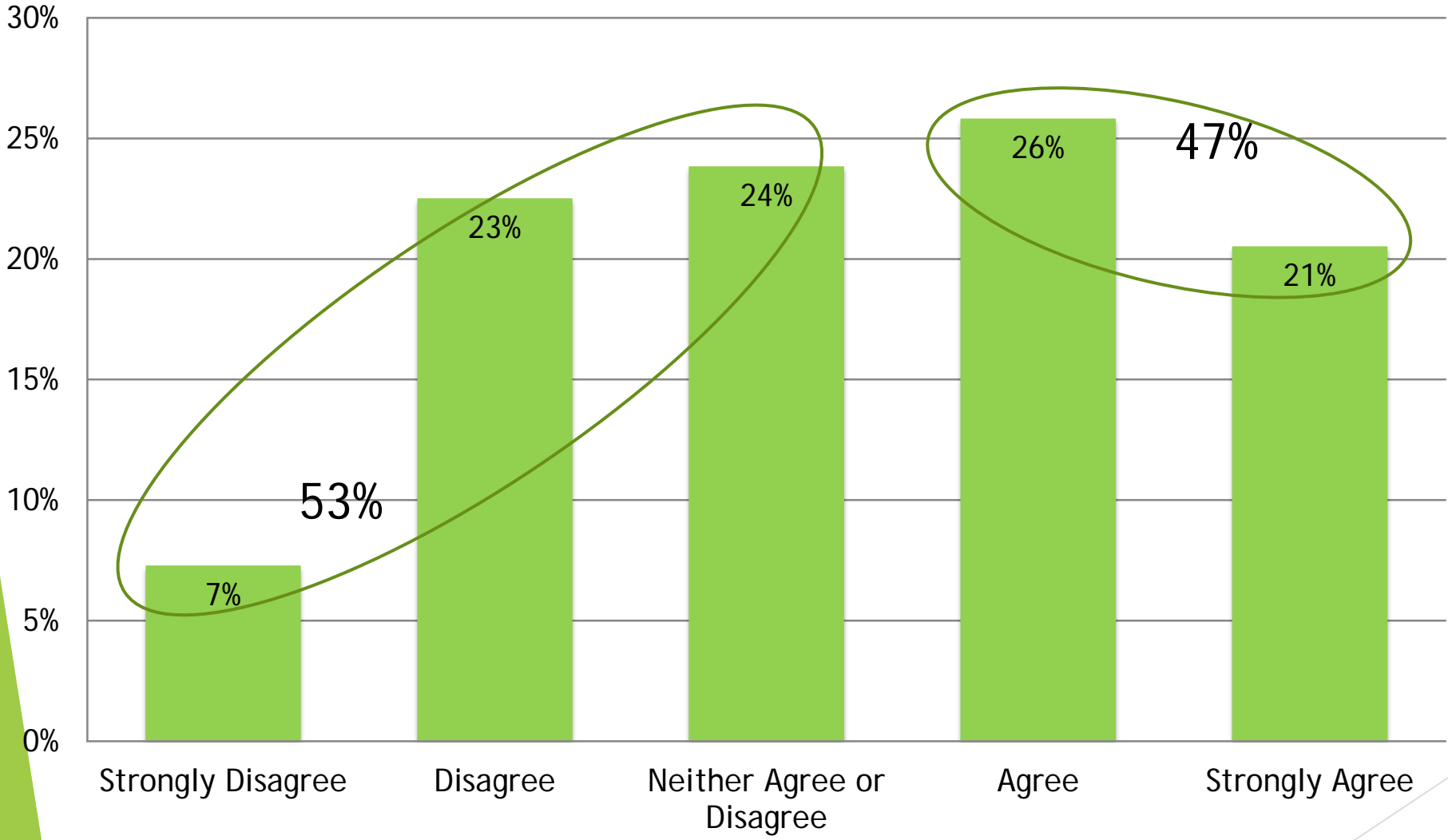
A Six Step Process

1. Motivation to be sustainable - what are your reasons
2. Translate the motivation into the vision that guides your strategic decisions
3. Ensure senior management's commitment
4. Set goals to achieve objectives
5. Identify and use relevant metrics
6. Proceed to take action accordingly

Do you believe that the reduction of CO2 Emissions is Part of the Companies Vision and Mission



Is Senior Management Committed to CO2 Sustainability?



Final Survey Question: What appropriate emission reduction actions will you take?

- ▶ Survey asked about the adoption of 26 possible strategies that could improve transportation sustainability.
- ▶ There was a wide variety of responses
- ▶ I only wish to point out one “bucket category”

Survey found that green strategy sourcing was actually a very low priority

	Implemented	Plan to Implement	Don't plan to implement
Include CO2 sustainability in sourcing carriers	21.57%	23.53%	32.35%
Encourage carrier suppliers to be CO2 sustainable	21.57%	26.47%	28.43%

23

22

Survey found carrier sourcing practices impacting / influencing GHG emissions are rather weak

- ▶ CO2 emission reduction has some importance, but cost, quality and service will dominate purchase decisions - (68%)
- ▶ Will you choose carriers with better CO2 qualification or performance when all other factors are equal (40%)
- ▶ Preferred treatment in loading & unloading is given to the top environmentally friendly partners (11%)
- ▶ Pay more to a carrier with a better CO2 reduction performance (10%)

The Bottom Line in the Report

- Green Sourcing is among least frequently utilized and ...
- Green requirements and incentives are weak
- Few respondents actually have an Emissions Measurement Program
- Addendum: Wheels broad experience -corroborates this!

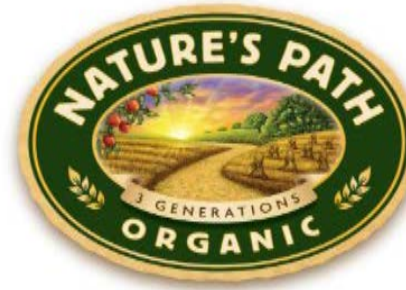
NRC – EPA SmartWay Partnership



BUT --WE HAVE POSITIVE NEWS NEWS

Examples of relevant metrics case study firm

Nature's Path Commitment to Go Greener



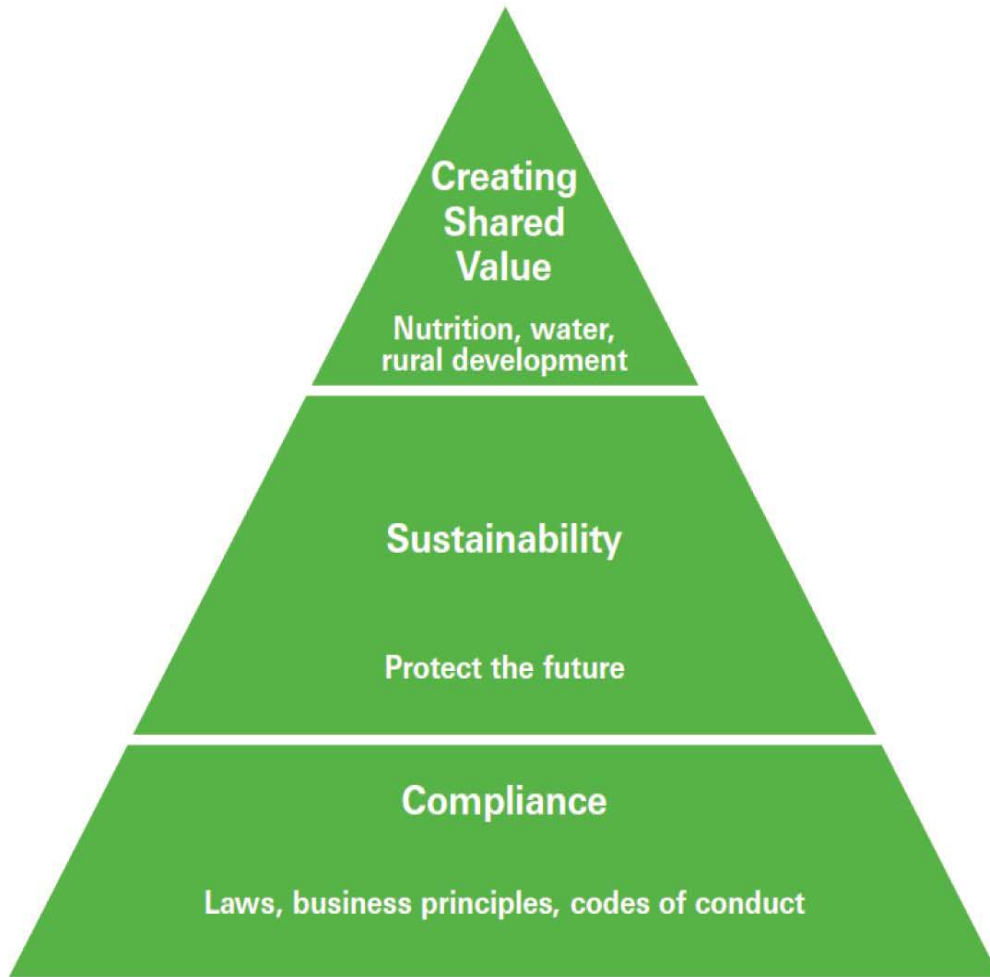
- ▶ 10% only on rail in 2007
- ▶ 61% on rail by 2011 due to strong commitment for improvement
- ▶ CO2 emission reduction of over 16%
- ▶ Measuring index of traffic on SmartWay carriers by lbs of CO2 per pound shipped
- ▶ With their 3PL partner they either used SmartWay carriers or made it clear carriers needed to get on board

Nestlé & their “Creating Shared Value” commitment

Nestlé in society: Creating Shared Value

Nestlé is the leading Nutrition, Health and Wellness company and we are committed to improving people’s quality of life at every stage, through science-based innovation. Creating Shared Value is the way we do business, and the way we connect with society. It’s an approach based on respect for people, cultures and the natural environment. In this report, we demonstrate how Creating Shared Value continues to shape our business strategy and where it is delivering benefits in society.

Establish commitment –their motivation



“We will be recognized as the trusted industry leader in providing lean, sustainable, consumer value”.



Good Food, Good Life

Creating Shared Value (CSV) is the basic way in which the whole Nestlé organization does business.

Nestle & their CSV commitment

Highlights in 2014

339 456

employees globally (total)

442

number of factories worldwide¹

Group sales of

91.6 billion

CHF million in 2014 (net)

16 billion

total group salaries and social welfare expenses

Over

1 billion

servings consumed per day

98%

of our children's products met the Nestlé Nutritional Foundation criteria² for children at the end of 2014.

73

Our Healthy Kids Global Programme reached more than 7.6 million children in 73 countries in 2014.

73%

We audited 8 700 of our 10 000 Tier 1 suppliers to date and found 73% fully complied with our Supplier Code.

38%

The volume of high-priority categories of raw material that are traceable back to the primary source.

Leader: We were ranked number one by the charity Oxfam in its 2014 scorecard, [Behind the Brands](#). The survey scored 10 food and beverage companies on their efforts to improve food security.

FTSE4Good: We remain the only infant formula manufacturer included in FTSE's responsible investment index, based on our performance in human rights, labour rights, responsible marketing of breast-milk substitutes and more.

NCI Transport Delivery Modes

2014 Route to Market Strategy

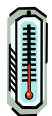
Nestle Canada Physical Logistics

"We will be recognized as the trusted industry leader in providing lean, sustainable, consumer value".



Pizza is ship to Customer Warehouses LTL:

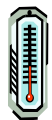
- Two 3P Dist.Centres (Versacold-Walker & Calgary)
- 349 Ship to Customers
- 5.2K Orders
- 2.3M Cases
- Trailers Outbound: 4.6K
- Cube: N/A
- On Time: N/A
- \$160.6M NNS



-18°C

Frozen Food is ship to Customer Warehouses LTL:

- One 3P Distribution Centre (Trenton Cold)
- 189 Ship to Customers
- 8.3K Orders
- 5.7M Cases
- Trailers Outbound: 2.1K
- Cube: 1610
- On Time: 97.2%
- \$99.6M NNS



-18°C

Ice Cream is mostly Direct Store Delivery:

- 5 Distribution Centres
- 246 Routes
- 155 FT, 27 Seasonal Trucks
- 20K Customers
- 250K Deliveries
- 10.4M Cases DSD
- 3.3M Cases WH
- \$243.3M DSD NNS
- \$68.2M WH NNS



-25°C

Retail is shipped to Customer Warehouses LTL:

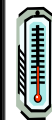
- One 3P Distribution Centre (Hopewell)
- 753 Ship to Customers
- 35.6K Orders
- 21.6M Cases
- Trailers Outbound: 7.8K
- Cube: 1755
- On Time: 98.7%
- \$768M NNS

Ambient / Conditioned
>6 - <30°C with
55 ± 10% relative
humidity



Chilled is shipped to Customer Warehouses LTL:

- One 3P Distribution Centre (Versacold-Walker)
- 60 Ship to Customers
- 1.8K Orders
- .5M Cases
- Trailers Outbound: NA
- Cube: N/A
- On time: N/A
- \$13.8M NNS



3°C - 5°C

*** includes indirect reporting businesses (Professional and Nutrition)

Emission Initiatives Employed at Nestle Canada

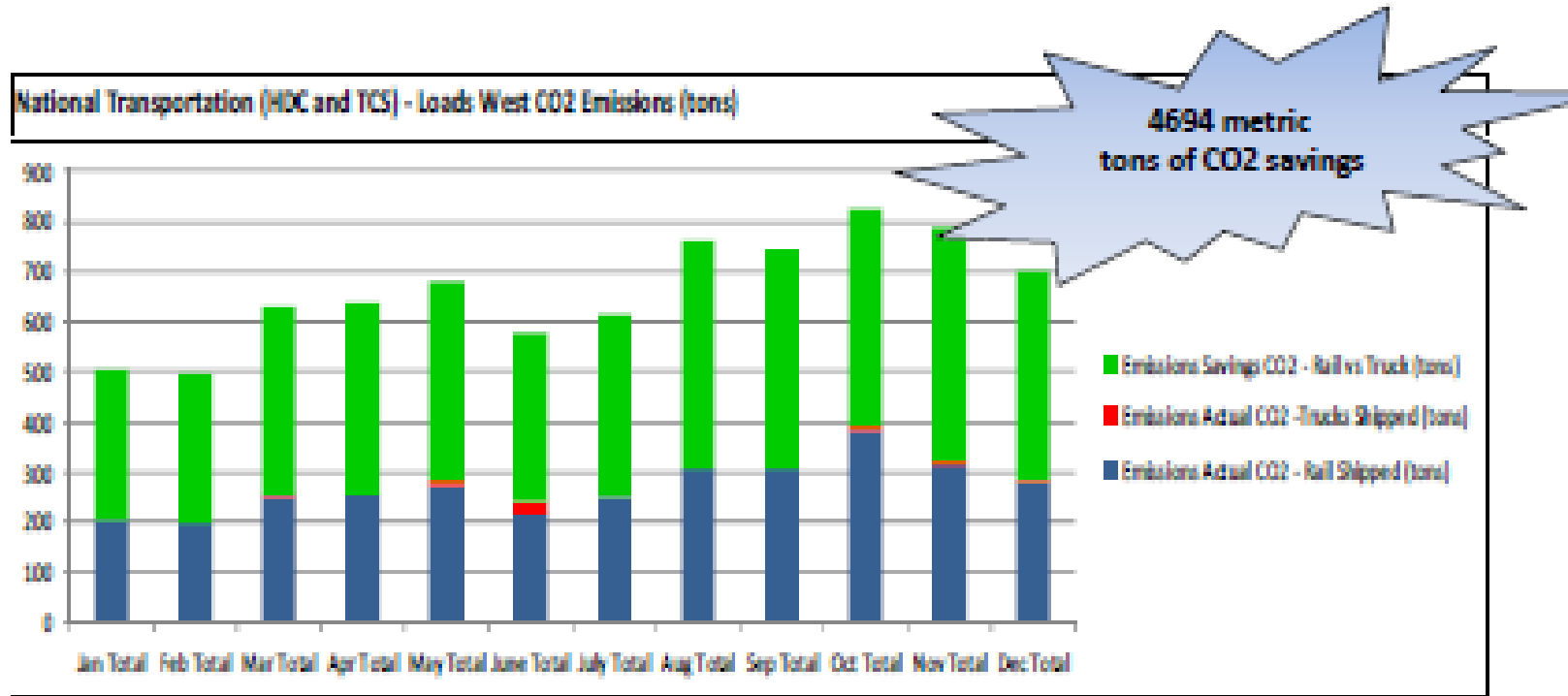
- ▶ Rail Vs Road Options
- ▶ Cube utilization
- ▶ Right sizing delivery frequency
- ▶ Minimum order quantities
- ▶ Customer incentives (full pallet/layer SKU)
- ▶ Truck technology (eutectic plates)
- ▶ Employee performance objectives



Nestle example of relevant metrics

Measures CO2 reduction from lean transportation initiatives

Gas Emission Savings 2013 Western Canada Rail vs. Road



Nestlé retrieves accurate measurement from SmartWay Truck Report

Internal Metrics
 Tool: Truck
 Display Option #1: Totals Only

Report Year: 2012
 Partner: Nestle Canada Ice Cream
 August 22, 2013

Metric	Total Tonnes (Metric)	Total Kilometres				Loaded Kilometres				Revenue Kilometres			
		Grams per Kilometre (Total)	Grams per Average Payload Tonne-Kilometre (Total)	Grams per Cubic Metre-Kilometre (Total)	Grams per Utilized Cubic Metre-Kilometre (Total)	Grams per Kilometre (Loaded)	Grams per Average Payload Tonne-Kilometre (Loaded)	Grams per Cubic Metre-Kilometre (Loaded)	Grams per Utilized Cubic Metre-Kilometre (Loaded)	Grams per Kilometre (Revenue)	Grams per Average Payload Tonne-Kilometre (Revenue)	Grams per Cubic Metre-Kilometre (Revenue)	Grams per Utilized Cubic Metre-Kilometre (Revenue)
CO ₂	8,074	1,345	333	20	27	1,816	493	29	40	1,345	333	20	27
NO _x	11.9	2.0	0.49	0.029	0.039	2.7	0.73	0.043	0.059	2.0	0.49	0.029	0.039
PM _{2.5}	0.14	0.023	0.0057	0.0003	0.0005	0.031	0.0085	0.0005	0.0007	0.023	0.0057	0.0003	0.0005
PM ₁₀	0.14	0.024	0.0059	0.0003	0.0005								

Total Kilometres			
Grams per Kilometre (Total)	Grams per Average Payload Tonne-Kilometre (Total)	Grams per Cubic Metre-Kilometre (Total)	Grams per Utilized Cubic Metre-Kilometre (Total)
1,345	333	20	27

Nestle –Reducing Fuel Consumption & Emissions

Reducing fuel consumption and emissions

We're working to cut fuel consumption and CO₂ emissions by improving the efficiency of our distribution networks – making better use of space in our vehicles, avoiding unnecessary miles and using more efficient modes of transport.

Emissions from transportation¹⁶ (estimated million tonnes of CO₂eq)



Nestle & Various Green Accomplishments

Modal shift from road to rail/short sea, Europe

(tonnes of CO₂eq saved)



Cumulative GHG savings per tonne of product from different transport modes – EU only (%)



ISO 14001:2004 certification – distribution facilities



Nestle Maximizing Use of Rail

The EU Marco Polo Project

- ▶ Between Italy, France, Germany and Slovakia
- ▶ Shifting 360,000 tons of pet care, water and cereal products from road to rail
- ▶ Complex strategy due to use of several rail links
- ▶ Began in 2014 and on target for completion in 2016
- ▶ 5000 trucks per year will be removed from roads

Nestle continues to seek out more opportunities to migrate road to rail in all parts of the world

Nestle & Pepsi – The Odd Couple!

Nestle & Pepsi joint DC, co-pack & outbound of fresh & chilled food in major part of Europe

Results:

- ▶ Synchronized combined full TL's
- ▶ 44% reduction in transport costs in Belgium which was an additional 15% better than “classic groupage” scenario
- ▶ 10-20% lower costs in other areas
- ▶ 55% lower GHG emissions
- ▶ More frequent deliveries -so key for fresh!
- ▶ Decrease accidents and congestion

Nestle & Their Massive Volume

- ▶ 264 times around the world EVERY DAY = their freight movements
 - ▶ 141,000 tons every day
 - ▶ 1630 distribution centres
-
- ▶ 60% of total volumes had environmental performance tracked in 2013
 - ▶ 65% --a 5% improvement to the above in 2014
 - ▶ 3PL partners most notably manage the vast portion of Nestlé's distribution where part of that mandate is to do the sustainability tracking & provide regular documented supported measurements

Making the Commitment at Wheels International

“The SmartWay program is another example of the work being done at Wheels to ensure that we are doing our part to reduce our environmental footprint and aid our customers in achieving greener supply chain solutions.”

*Peter Jamieson, Country Manager
Wheels International*



More Case Studies

Some Quick Examples of Other Success
Stories

Share Network Facilities & Transport

Amazon & P&G collaborate in several joint DC's

Results:

- ▶ 10-20% lower costs in transport
- ▶ Substantially hit on GHG emissions

Increased vehicle utilization

Unilever re-designed cartons & pallets to maximize trailer cube utilization

Results:

- ▶ Substantial freight savings
- ▶ Substantial reduction in TL`s
- ▶ Reduction of 277 tons in related CO2 emission.

Increased vehicle utilization

IKEA eliminated air & unused space in packaging the just one popular product

Results:

- ▶ 40% increased volume per pallet
- ▶ Substantial freight savings
- ▶ 21% reduction in GHG emissions

Optimizing speed limiters in vehicles

ConWay Transport turned down a large numbers of electronic speed limiters in their fleet of trucks from 65mph to 62mph

Results:

- ▶ 3 million gallons of fuel saved
- ▶ 72 million lbs of CO2 eliminated (equates to exhaust from about 7300 cars/year)

Modify method to transport

Siemens just now announced a collaborative initiative is in place to build two special Roll-on/ Roll-off ships which will eliminate the need to use expensive cranes for their very large offshore wind turbine components

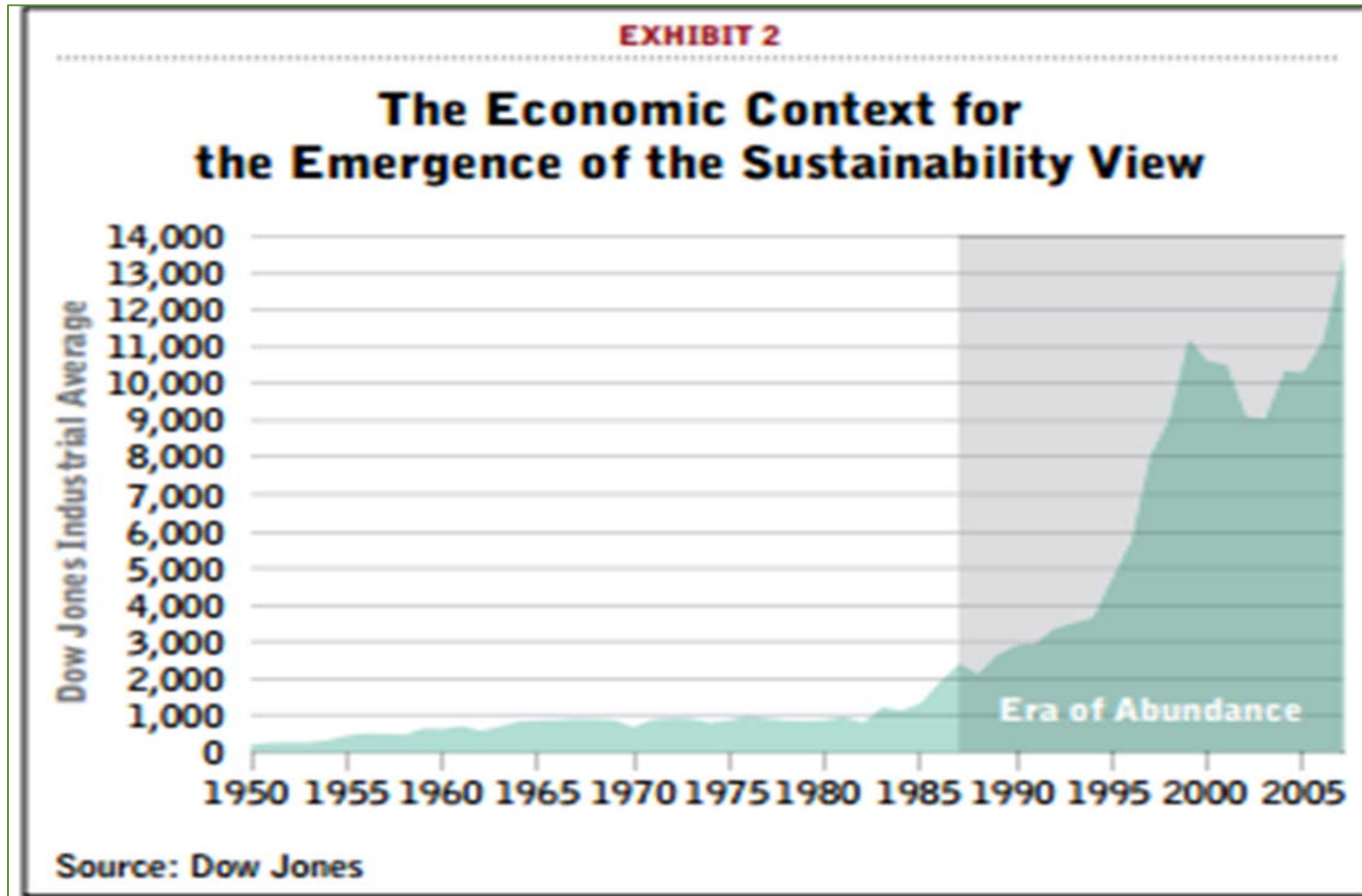
Results:

- ▶ 15-20% reduction in costs to move
- ▶ Significant reduction in GHG emissions with new ships and revised movement processes

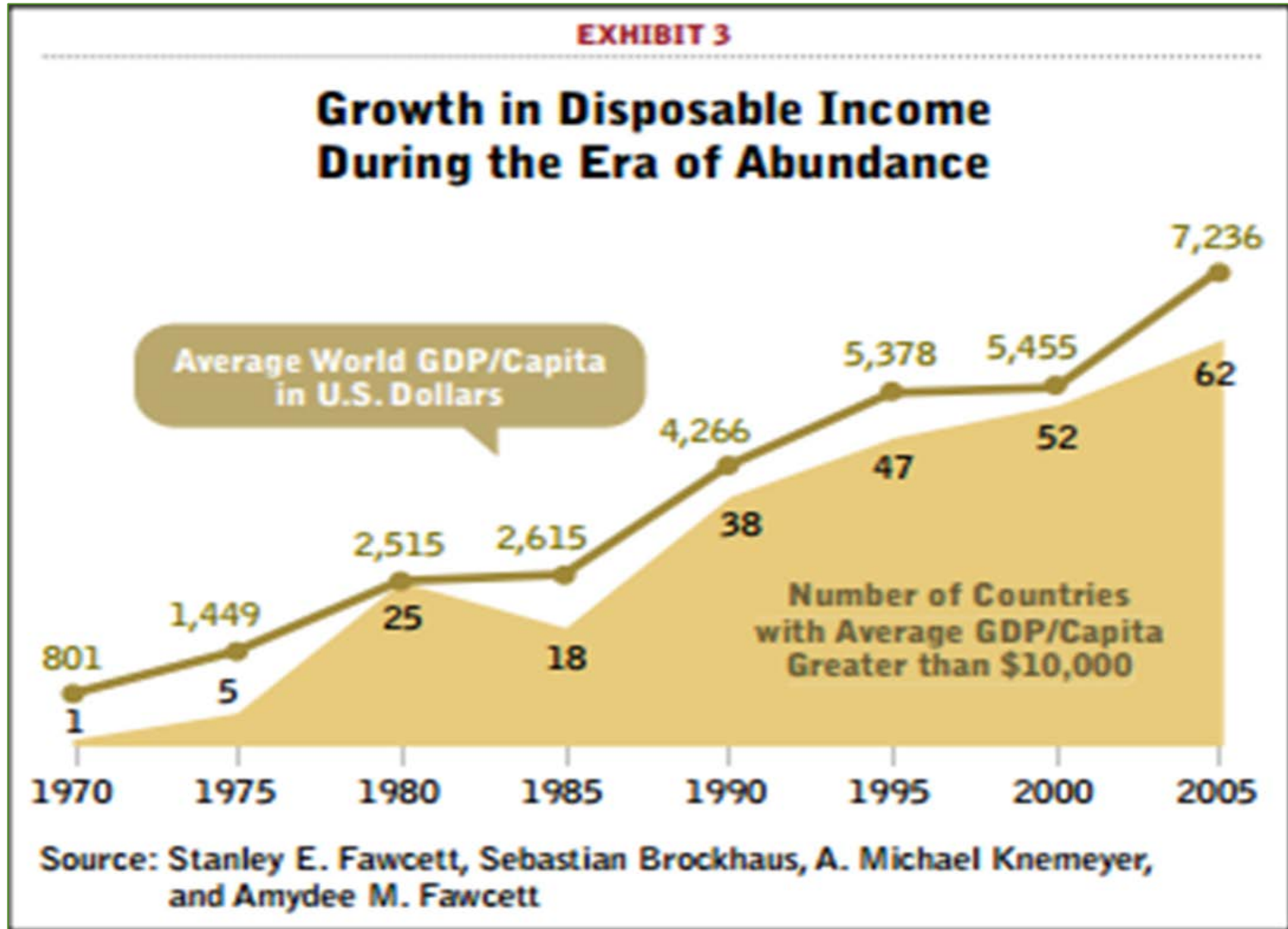
Sustainability as Strategy: Caught in the Luxury Trap

- ▶ 2015 Goddard School of Business at Weber State & Fisher College of Business at Ohio State studied and published an outstanding report
- ▶ Stated and supported that 1985 to 2005 was an Era of Abundance

Era of Abundance: Unprecedented Stock Market Performance



Era of Abundance: GDP / Capita



Caught in the Luxury Trap

- ▶ Funds for sustainability were available
- ▶ Disposable income had pushed well into boundaries where extra expense was OK
- ▶ That mass migration—
 - ▶ of \$2615 to \$7236 / capita
 - ▶ 18 to 62 countries that reached \$10000 per capita GDP
 - ▶ was witness to consumers accepting to pay more in a sustainable lifestyle

Caught in the Luxury Trap

- ▶ 2008 - Uh Oh!
- ▶ 2009 the great recession was well entrenched
- ▶ Consumers unwilling to pay for “luxury” .
- ▶ Many companies reduce investment in “green”!
- ▶ Sustainability was CAUGHT IN THE LUXURY TRAP

Escaping the Luxury Trap

Momentum had been in place BUT...

- ▶ Leaders now required help to continue to embrace and push forward
- ▶ Identified there needed to be proper underlying MOTIVATIONS for pursuing sustainability

Momentum has in fact continued – What was the Motivation for Sustainability?

- ▶ In depth interviews occurred with 28 sustainable leaders from across Europe and the US
- ▶ The following exhibit & chart show results, however, we must note that motivational types can be multifaceted (not necessarily mutually exclusive)

Sustainability as Strategy: Caught in the Luxury Trap - Motivations

EXHIBIT 4

Typology of Motivations to Engage in Sustainability



Source: Stanley E. Fawcett, Sebastian Brockhaus, A. Michael Knemeyer, and Amydee M. Fawcett

TABLE 1

Types of Motivations to Engage in Sustainability

Motivation	Goals	Outcomes	Limitations	Exemplars
The Image Enhancer	<ul style="list-style-type: none"> • Enhance brand image through sustainability • “Immunize” brand against sustainability blunders 	<ul style="list-style-type: none"> • Green marketing • Brand risk management • Often special sustainable line of products 	<ul style="list-style-type: none"> • Extrinsic motivation • Cultural conflict • Tendency to “shift the burden” • Threatened by greenwashing 	<ul style="list-style-type: none"> • Unilever • Shell • Walmart • Nike
The Efficiency Maximizer	<ul style="list-style-type: none"> • Reduce environmental and social impact while lowering costs • Proactive compliance with possible future regulation 	<ul style="list-style-type: none"> • Extension of the lean principle • Add-on to waste elimination efforts • Building on existing efficiency programs 	<ul style="list-style-type: none"> • Little to no public recognition as “green” • Refocus once low-hanging fruit is harvested • No holistic vision beyond operational excellence 	<ul style="list-style-type: none"> • DuPont • IKEA • Walmart • 3M • Toyota
The Resource Acquirer	<ul style="list-style-type: none"> • Sustain natural resources for future business at competitive price • Retain and attract talent through sustainability message 	<ul style="list-style-type: none"> • Investment into more sustainable production/ harvesting of natural resources • Increasing control of parts of the upstream supply chain 	<ul style="list-style-type: none"> • More sustainable resources come at a price premium • “Boxed In Effect,” challenge to preserve sustainability goals during growth 	<ul style="list-style-type: none"> • Starbucks • Stora Enso • McDonald’s • BP
The True Believer	<ul style="list-style-type: none"> • See sustainability as “the right thing to do” • View everything through the sustainability lens • Spread the “virtues” of increasing sustainability 	<ul style="list-style-type: none"> • Deeply ingrained into their corporate DNA • Financial trade offs are accepted as long a overall profitability is ensured 	<ul style="list-style-type: none"> • Remain niche providers • Culture not scalable • Motivation and culture can be lost in case of a change in leadership 	<ul style="list-style-type: none"> • Patagonia • Rohner Textil • Herman Miller • Tesla



What are you waiting for??

The UGLY Results of Ignoring Business Ethics

The cost & related collateral damages to a company when:

- ▶ Unnecessary accidents, deaths, spills, pollution occur while in transport
- ▶ Using a low cost third world manufacturer where unethical working conditions exist and often where catastrophic events occur with many deaths
- ▶ Child labour and subsequent high levels of suicide
- ▶ There is a serious lack of any number of proper business ethics
 - ▶ Rampant deforestation
 - ▶ Use of toxins in things like children's toys
 - ▶ Etc.

American Business Act on Climate Pledge

A major step forward for US based corporations where in under two months over 80 of the largest companies have joined in pledging to have set significant GHG reductions along with renewable energy sourcing goals for 2020 and beyond.

American Business Act on Climate Pledge

Companies include:

- Best Buy
- Bloomberg,
- American Express,
- Apple, Alcoa,
- AT&T,
- Bank of America,
- Berkshire Hathaway Energy,
- Cargill,
- EMV
- General Mills
- IKEA
- Kellogg's
- Levi Strauss,
- L'Oreal,
- Mars,
- Nestle,
- Nike,
- PG&E,
- Starbucks,
- Unilever and
- Walt Disney

*To just name a few
that make up over \$3
trillion in annual sales,
employ over 10 million
in 50 states*

Paris is Proceeding

- ▶ The American Pledge was established to show the White House's action and the business communities receptiveness
- ▶ Canada's new "rock star" Prime Minister has made his party's platform clear - and Canada along with our businesses are going to have the bar raised at this time
- ▶ Get ready and get ahead!

3PL's Capabilities to drive Sustainability & Supply Chain Management Excellence – WHY?

- ❑ PLEASE REVIEW MY HANDOUT AT YOUR EARLIEST OPPORTUNITY AND FEEL FREE TO CONTACT ME ABOUT THIS.
- ❑ You owe it to yourself and your company to investigate if there is a fit. There are many organizations who excel & are highly specialized in the various industry verticals and given a proper up to date investigation you may well be pleasantly surprised.

One Stand-Out Issue

Deep / Real Collaboration

“Mining” or Deep Collaboration

- ▶ Level 1 - Basic consolidation in 1 business unit
- ▶ Level 2 - Consolidation & possible match in & outbound
- ▶ Level 3 - Various company divisions matching
- ▶ **Deep Mining (PURE GOLD)! - various well matched shippers - even competitors.**
- ▶ But... Very hard to find brave souls who will go where few have gone!
Only A few are now venturing there!

"We should all be concerned about the future because we will have to spend the rest of our lives there"

- Charles F. Kettering



THANK YOU
MERCI

martinraymondkelly@gmail.com



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

Industry Agenda

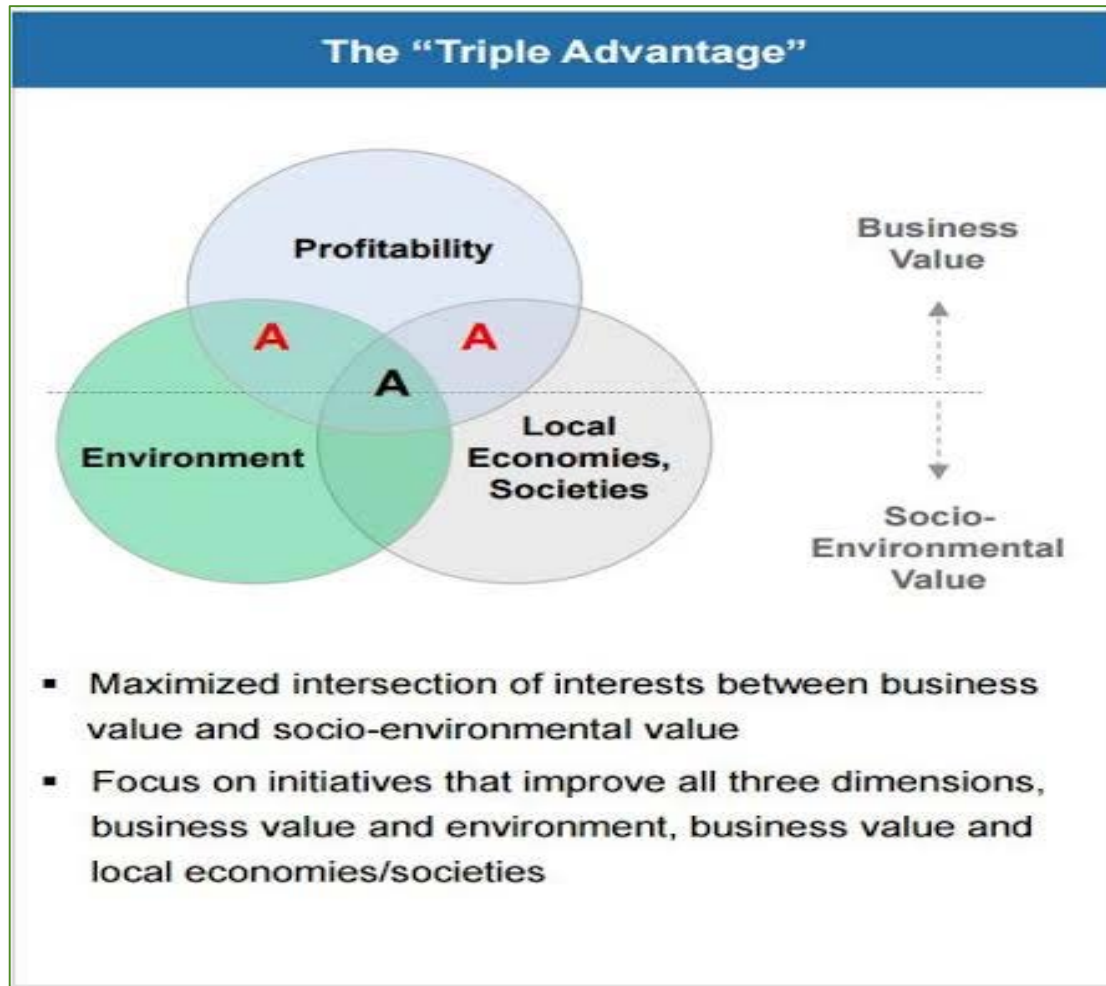
Beyond Supply Chains Empowering Responsible Value Chains

Prepared in collaboration with Accenture

World Economic Forum Endorses 31 Ways To Create SC's with a conscience!

- ▶ Instead of using SC only as a competitive advantage -add the following benefits:
 - ▶ Socio-economic
 - ▶ Environmental

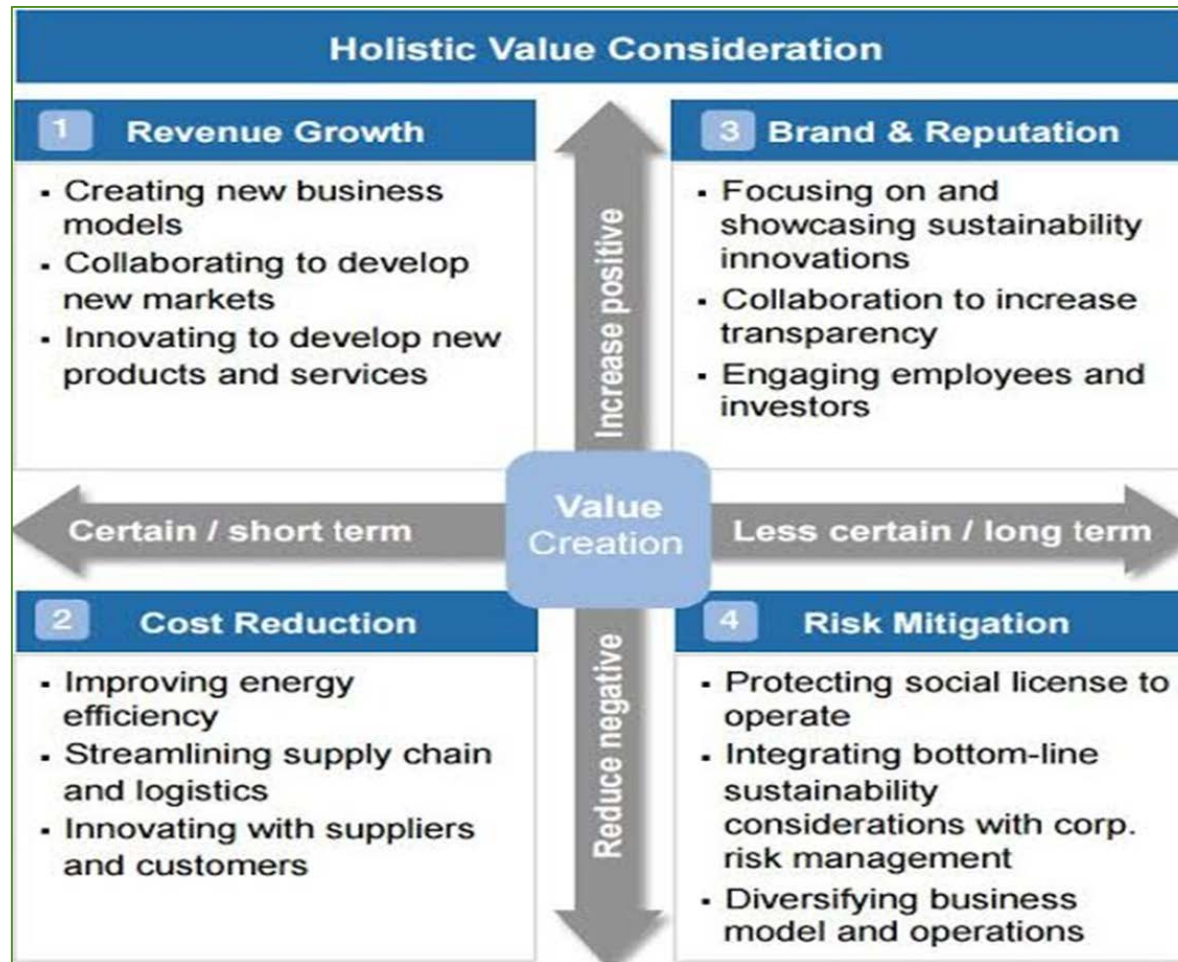
The Triple Advantage



Leading companies capture the "triple advantage" of sustainability

(Source Accenture)

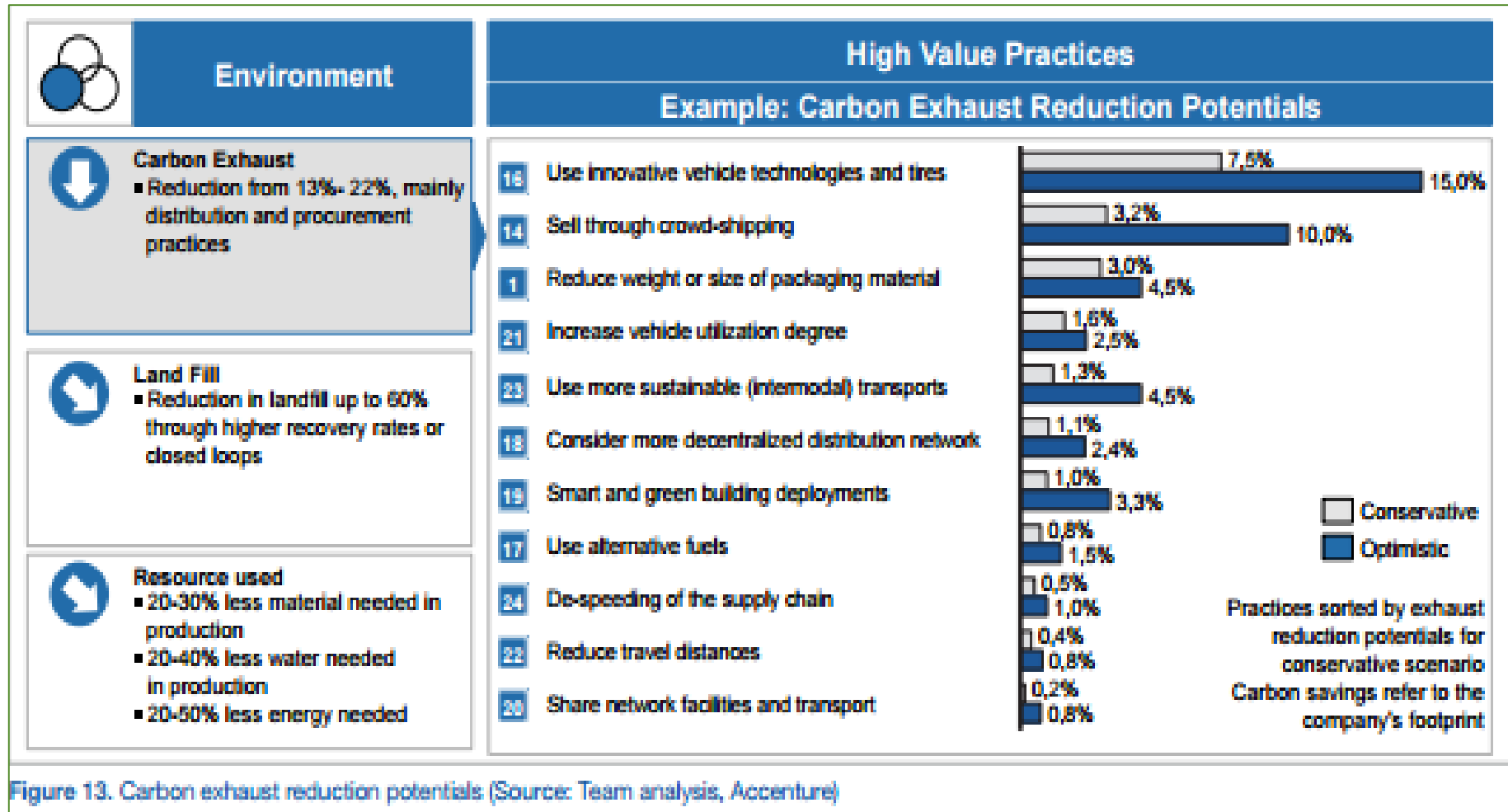
Sum of the parts are HOLISTIC



Leading companies capture the “triple advantage” of sustainability

(Source Accenture)

Carbon Exhaust Reduction Potentials



Beyond Supply Chain - Empowering Value Chains & the Implications

Value exists in all 31 practices. There are many examples

Major Hits Summary

- I. Min 10-20% reduced cost in shared logistics operations
- II. Implementing most all that are applicable to a company would yield at least 9-16% savings, increase revenue 5-20% and reduce CO@ 13-22%
- III. At the same time improving health, welfare & labour standards