From Good to Great

The Business Opportunity of Sustainability Marketing
Introduction

Live in conservative Colorado Springs
Introduction

Own a horse ranch
Introduction

Striving to be a good provider
Introduction

Math and computer science major
Yet...

Over 15 years in sustainability, globally...

Vinyl (US)
Beef (US, Brazil)
Chicken (US, Thailand, Colombia, Chile)
Salmon (Norway, Australia, Canada)
Wine (Argentina)
Almonds (US)
Smoothies (US)
Milk and dairy (NZ)
Animal feed (China, Indonesia)
Bottled water (Germany)
Feed ingredients (EU)
Why Sustainability?

GROWING POPULATION

Years when world population reached increments of 1 billion

- 7 billion (2011)
- 6 billion (1999)
- 5 billion (1987)
- 4 billion (1974)
- 1 billion (1804)
- 3 billion (1959)
- 2 billion (1927)

Billion

Years to add one billion people: 123, 32, 15, 12, 12

Source: Population Division of the United Nations Department of Economic and Social Affairs
Unprecedented Population Growth…

2050: 9.7 Billion People
(United Nations report October 2015)

If we change nothing... we will need 3 planets of natural resources
... and Unprecedented Challenges

Forecasted Changes Through or As Of 2050

- Population over age 60: 21.5%
- Middle class: +3 billion people
- Population living in cities: 70%
- Food needed: +30%
- Road transportation: +100%
- Primary energy needed: +45%
- Water needed: +50%
- Average life expectancy: +10 years

Source: Townsend Solutions
Three Main Things People Are Concerned About

Adequate Nutrition

Clean Drinkable Water

Roof Above the Head
Purpose Driven Sustainability is About People

“doing MORE with LESS”

Meeting people’s needs
Balancing environmental stewardship with economic sense and social responsibility
Continuous improvement
What are the Insulated Panel Industry Copper Rivets?
Estimated Raw Material Availability

How Many Years Left (If The World Consumes at Today's Rate)

- **Salt**: Chlorine, many applications
  - 1000s
  - Unlimited
- **Aluminum**: transport, electrical, consumer durables
  - 510
  - 1027
- **Chromium**: chrome plating, paint
  - 40
  - 143
- **Copper**: wire, coins, plumbing
  - 38
  - 61
- **Lead**: lead pipes, batteries
  - 8
  - 42
- **Nickel**: batteries, turbine blade
  - 37
  - 90

How Many Years Left (If The World Consumes at Half the US Consumption Rate)

- **Natural Gas**: many applications
  - 300
  - 500
- **Salt**: Chlorine, many applications
  - 1000s
  - Unlimited
- **Aluminum**: transport, electrical, consumer durables
  - 510
  - 1027
- **Chromium**: chrome plating, paint
  - 40
  - 143
- **Copper**: wire, coins, plumbing
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Estimated Data based on the US Geological Survey (www.usgs.gov)
SIPA’s Low Hanging Fruit

Industry

Corporate

UN SDGs
Branded Performance
Sustainability Trends
Sustainability Reporting
Legal

Innovator
Value Chain Sustainability
Goals/KPIs
Reporting
CSR Policy
Workers Safety
EHS Management Systems
Legal Requirements/Standards

Value Added/Partnership

Expected/Must Have/Good for Now
Environmental Product Declaration (EPD)

ISO 14025

Additional needs:
- Program operator
- Third party peer review
- Registration

Product Category Rule (PCR)
- Defines the product category
- Lays out which impacts the manufacturer must share
- Details how to measure each of these impacts

Life-Cycle Assessment (LCA)
- Typically completed by an independent LCA practitioner
- Tells how the product is made
- Explains each environmental impact and how it was measured

Environmental Product Declaration (EPD)
- Attempts to show LCA results in shorter form
- Can include data not derived from the LCA, within limits
- Does not compare products, but can make comparison easier

CAUTION: Early adopters are deeply involved in setting up the rules.
CAUTION: Not every LCA comes from a PCR or leads to an EPD.
CAUTION: EPDs can appear more comprehensive than they are.
What is a LCA (Life Cycle Analysis)?

- Environmental impacts
  - Cradle-to-Gate
  - Cradle-to-Grave
  - Cradle-to-Cradle
LCA Environmental Impacts Example

**Energy use** (incl. Efficiency)

**Raw material use** (incl. scarcity, etc.)

**Land use**

**Emissions**

**Consumptive water use**

**Occup. illnesses & accidents**

**Toxicity potential**

**Water emissions**
- incl. COD, Heavy Metals, Total N & P, SO₄²⁻, Cl⁻, AOX

**Air emissions**

**Solid waste**
- incl. residential, hazardous, mining, construction waste and analysis of disposal options (recycling, composting, landfill, etc.)

**Greenhouse gases**
- CO₂, N₂O, halogenated hydrocarbons, CH₄ can lead to climate change (Carbon footprint)

**Ozone depleting substances**
- Halogenated hydrocarbons can lead to a hole in the ozone layer

**Smog-forming pollutants**
- VOCs and CH₄ can lead to ground level ozone and cause summer smog

**Acidifying gases**
- SOₓ, NOₓ, NH₃, HCl can lead to acid rain

Defined in the PCR
Environmental Product Declaration (EPD) for Wood

The North American wood products industry is committed to sustainability in its products and their use. In support of this commitment, we are pleased to share third-party verified Environmental Product Declarations and Transparency Briefs that describe the environmental performance of many of the products we produce.

American and Canadian Wood Councils Release Wood Environmental Product Declarations
What is embodied carbon?

“Cradle to gate”

Carbon Lifecycle of Building

Recycling and/or Disposal of Recovered Materials

Raw Material Extraction and Processing

Manufacture of Building Materials

Transportation to Construction Site

Utilization in Construction of Building

Operational Use of Building

Refurbishment and Reuse of Building

Demolition of Building at End of Life

Embodied Carbon
What’s “Real” / “Purpose Driven” Sustainability About?

- Industry
  - UN SDGs
  - Branded Performance
  - Sustainability Goals
  - Sustainability Strategy
  - Sustainability Reporting
  - Standards
  - Industry Trends
  - Legal Requirements

- Corporation
  - Innovator
  - Value Chain Sustainability
  - Goals/KPIS
  - Reporting
  - CSR Policy
  - Workers Safety
  - EHS Management Systems
  - Legal Requirements/Standards

Value Added/Partnership
Expected/Must Have/Good for Now
The Continuous Improvement Roadmap

1. Materiality
2. Mapping to SDGs
3. Baseline/LCA
4. Goals/KPIs
5. Reporting

Act and Innovate

Reassess every 4–5 years

Branding/Marketing
Baseline industry accomplishments (2017): 1.1 billion pounds of vinyl is recycled annually in North America, including 150 million pounds of post-consumer materials, a 40% increase since 2014.

Existing contributions to UN SDGs:

**Targets: 12.2, 12.4, 12.5, 12.6**

<table>
<thead>
<tr>
<th>ID</th>
<th>Vinyl Industry Sustainability Goals</th>
<th>Company-Specific Contribution Indicators (KPIs and Metrics)</th>
<th>Target Date</th>
<th>UN SDGs Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>WM 1</td>
<td>Create and identify the leaders of a VSC Waste Management Task Force</td>
<td>Support and participate in task force member in 50% of meetings and attend 80% of annual meetings until 2024</td>
<td>2023</td>
<td>12.2, 12.4</td>
</tr>
<tr>
<td>WM 2</td>
<td>Publish two technical papers, communicating existing recycling and waste-to-energy activities, challenges, and opportunities</td>
<td>Provide technical information or sponsor the publishing effort supporting two technical papers</td>
<td>2019</td>
<td>12.5</td>
</tr>
<tr>
<td>WM 3</td>
<td>Research and identify potential market segments and products for recycled vinyl. Start with mapping out existing market segments and recycled material applications.</td>
<td>Map existing market segments and recycled material applications in your organization, and provide to VSC for aggregation.</td>
<td>2019</td>
<td>12.4, 12.5</td>
</tr>
</tbody>
</table>

**BETWEEN 2005 AND 2011, THE BEEF INDUSTRY REDUCED:**

The overall environmental and social fingerprint of the beef industry has been reduced by 7% in just 6 years!
The Sustainability Story

LCA shows potential environmental savings could be significant: simply reducing crop production by 5% could yield savings like these\(^1\) per 1,000 head:

- **LAND USE**: 30 ACRES
  - About 23 football fields

- **SOIL CONSERVATION**: 900 TONS
  - About 65 dump trucks of soil

- **ENERGY USE**: >257m BTU
  - Energy to power 7.3 average homes for 1 year

- **GHG EMISSIONS**: >60k CO\(_2\)e
  - GHG equivalent of 5.8 passenger cars for 1 year

- **WATER USE**: >22m gallons
  - Water to fill 40 Olympic sized swimming pools
If You Want to Go Fast, Go Alone.
If You Want to Go Far, ...Go Together.

(African Proverb)
Suggestions for SIPA and Members

1. Do not sit on the fence on this one!!
   - Membership growth
   - Increase market share
   - Improve image

2. Develop a strategy with sustainability as a pillar for the industry and for your operations.

3. Do the industry EPD and calculate the embodied carbon in the material as it relates to a whole building structure.

4. If you care about image, stakeholders, and stockholders.....
   Implement a Purpose Driven Sustainability Roadmap.

5. Create sustainability related branding and messaging
We’re Here to Help You

Crossover
Sustainability Solutions
For You Have Not Passed This Way Before

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