What is "Green"?
A Primer for EHS Professionals

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Today's Agenda

- Recent History
- Definitions
- Models
- Societal Trends
- Business Trends
- "Greenwashing"
- Business Responses

What we are **<u>not</u>** discussing today

- Climate change

- Socioeconomic issues / labor practices

What is "Green"?

- "Green" is <u>not</u> black and white
- "Green" = "Sustainability"??
- "Green" is typically thought of as primarily applying to products, but it may also describe consumer or business practices
- Apparently it has become a verb – how often have you been admonished to "green" something?
- There is more <u>misinformation</u> than information
- Sustainability - Common definitions are elusive

What does Webster say?

1 sus·tain·abil·i·ty *noun*: capable of being sustained

2. a : of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged <*sustainable* agriculture>

b : of or relating to a lifestyle involving the use of sustainable methods

<*sustainable* society>

Sustainability – some recent history

- 1987: United Nations Report, "*Our Common Future*", also known as the **Brundtland Report** defined: *Sustainable development...as* "*development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs*".

Sustainability – more history

In 1998 "**Green Chemistry: Theory and Practice**" was published – outlined the following tenets:

- Prevent waste.
- Design safer chemicals and products.
- Design less hazardous chemical syntheses.
- Use renewable feed stocks.
- Use catalysts, not stoichiometric reagents.
- Use safer solvents and reaction conditions.
- Increase energy efficiency.
- Design chemicals and products to degrade after use.
- Analyze in real time to prevent pollution.
- Minimize the potential for accidents.

Sustainability Model

- Waste Minimization
- Energy Conservation
- Renewable Energy
- Restoration

Environmental

Economic

- Secure Jobs
- Fair wage
- Infrastructure
- Fair Trade

Social

- Working conditions
- Health services
- Community
- Social justice

Sustainability Model

Waste Minimization
Energy Conservation
Renewable Energy
Restoration

Secure Jobs
Fair wage
Infrastructure
Fair Trade

Environmental

Economic

Social

Working conditions
Health services
Community
Social justice

Societal Trends

- **Green**: We're not quite sure what it is, but we sure like it...

- *PriceWaterHouseCooper (2009 Study)* "Over the past decade, sustainability has moved from the fringes of the business world to the top of shareholders' agenda...."

What do consumers want? Products that are…

- "Environmentally safe"
- Organic
- Biodegradable
- Compostable
- Recyclable/recycled
- Ozone friendly
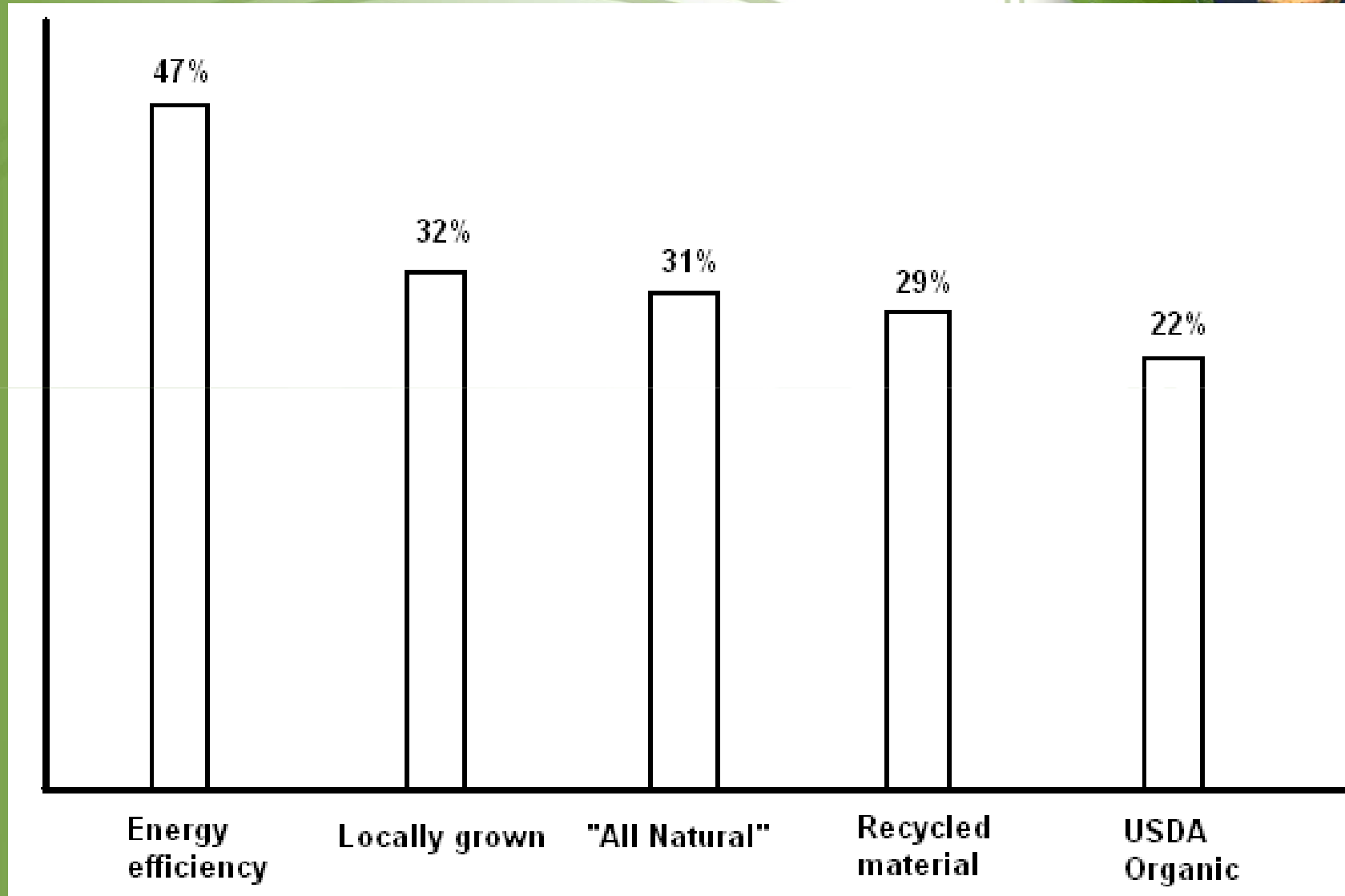- Consumers are willing to spend more money on products that they believe satisfy one or more of these

What do consumers want?

- 70% of consumers expect business to be leaders in finding environmental answers
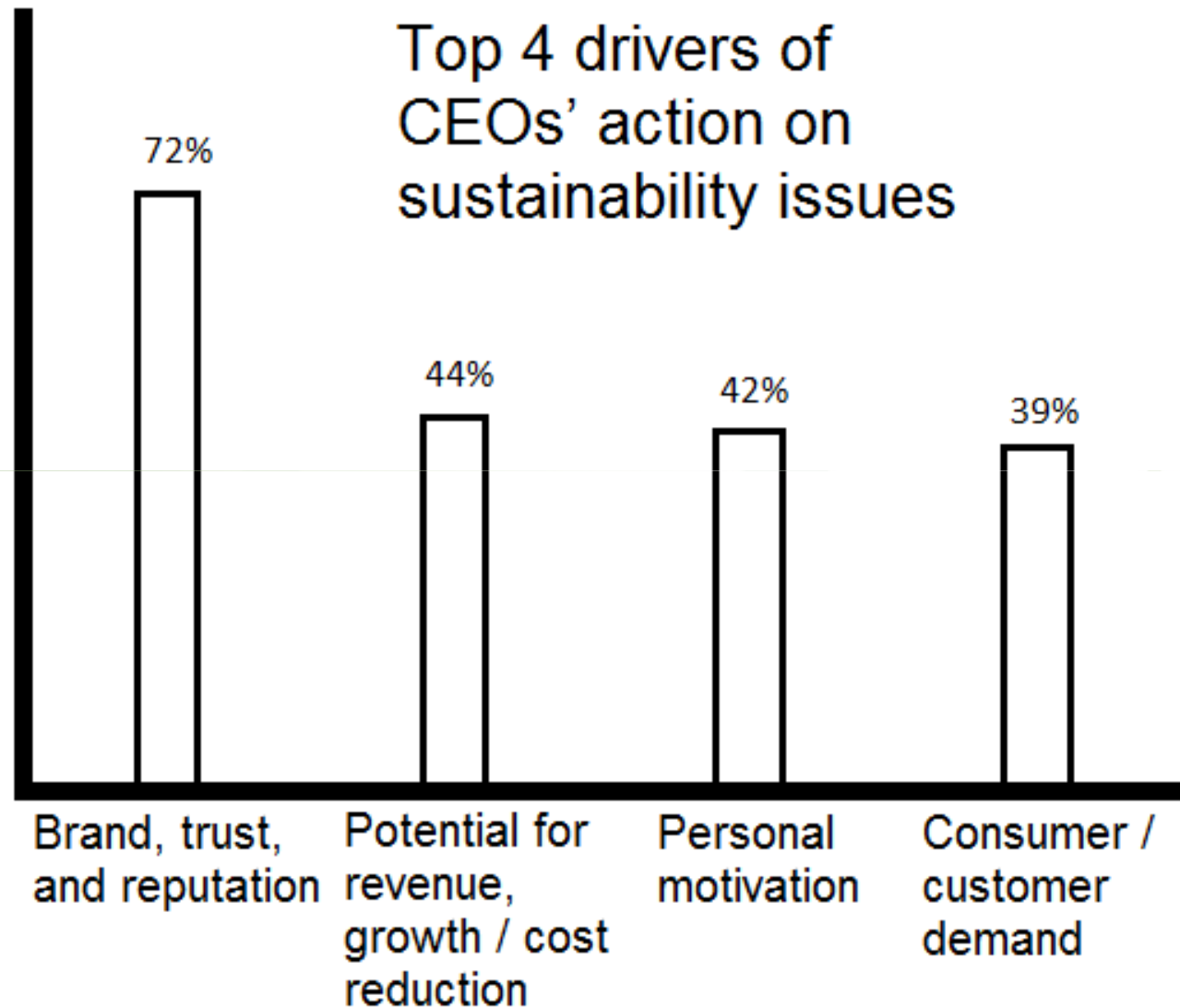- BUT, less than 10% of consumers actually believe businesses' environmental claims*

From: AccountAbility, 2007

% of Consumers saying this is "very important" to their purchase decision

Bar chart:
- Energy efficiency: 47%
- Locally grown: 32%
- "All Natural": 31%
- Recycled material: 29%
- USDA Organic: 22%

From: BBMG Conscious Consumer Report: Redefining Value in a New Economy 2009

What does Management want?

Top 4 drivers of CEOs' action on sustainability issues

72% — Brand, trust, and reputation
44% — Potential for revenue, growth / cost reduction
42% — Personal motivation
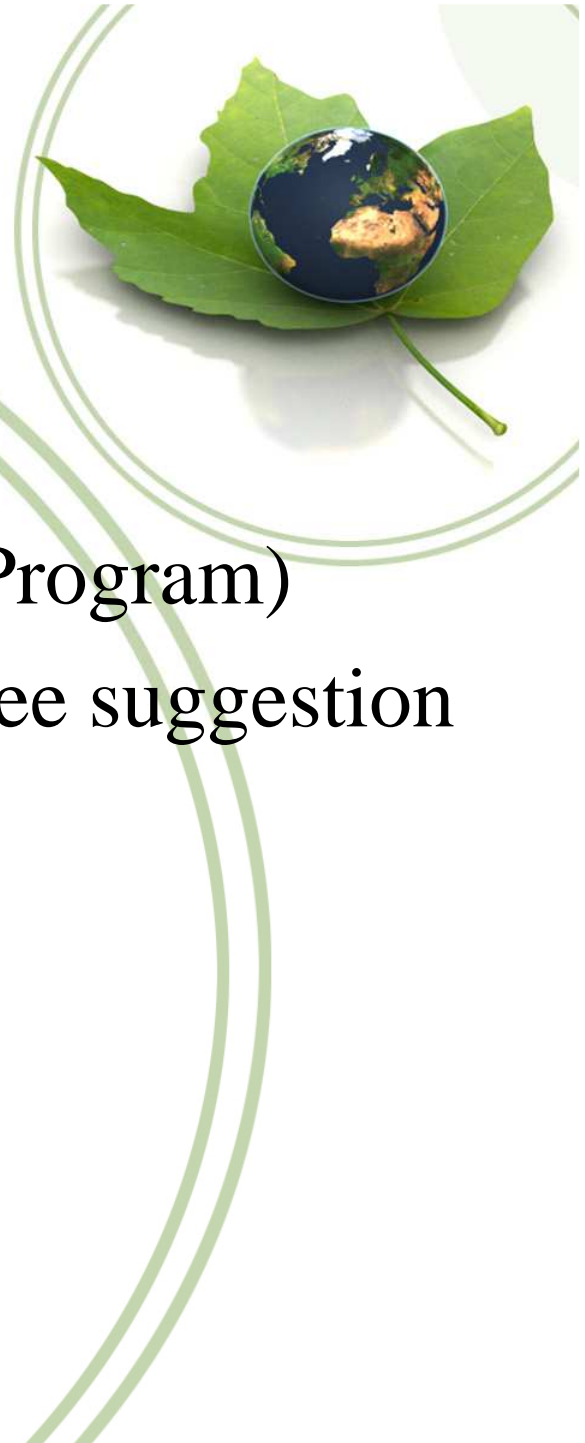39% — Consumer / customer demand

From: "A New Era of Sustainability," Accenture, June 2010

Does Economic Reality trump "Green" in Business?

The Economist (2009) "*For business, the buzzword of 2008 was "sustainability". Never properly defined, it meant different things to different people, which of course added to its charm. In part it was a new way of packaging the clumsy old "corporate social responsibility". And it added a virtuous green dimension: sustainable business would help to save the planet…But that was then. In 2009 sustainability will take on a new meaning in boardrooms: <u>staying in business</u>.*"

Environmental Gains = Economic Advantages

- **3M** Company
- Pollution Prevention Pays ("3P" Program)
- Established in 1975 as an employee suggestion program
- $1B in savings over 30 years (!)

Corporate Structures and Buzzwords

- Environmental, Social, Governance

- Corporate Social Responsibility

- Product Stewardship

- Sustainable Development

- Is there a consistent structure for Sustainability within organizations?? NO

Example of a Corporate Sustainability Structure

Corporate Vision
 └ **EHS Value**
  └ **EHS Policy**
   └ **EHS Principles**
    └ **2020 Strategy**
     └ **Regulatory Compliance**
      └ **Standards & Procedures/Documentation**
       └ **Protocols**
        └ **Self-Assessment (ASAT)**
         └ **Audits/Verification**
          └ **Balanced Scorecard Goals**
           └ **Measure Results**
            └ **Education & Training**
             └ **Benchmark – inside and out**
              └ **Real-time incident reporting**
               └ **Incident Investigation**
                └ **Communication**
                 └ **Recognition/Consequences**
                  └ **Organize for Results**

Corporate Sustainability Stock Indices

- WEC Award

- The Dow Jones Sustainability Index

- The Domini Index

- Innovest – Green Company Designation

- Corporate Certification to ISO 14001
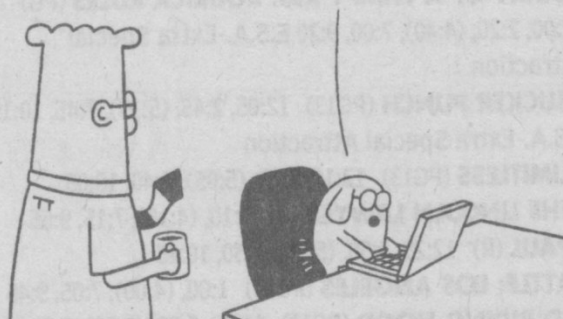
- FTSE: The Index Company

But…DJSI…for example..Environmental performance accounts for only 4.2 % of its weighting criteria

"Greenwashing"

"Greenwashing"

- **Dirty Business**: Boasting about a 'green' product or investment when the core business pollutes

- **Ad Bluster**: Advertising expenditures on environmental practices exceeds actual environmental investment or achievement

- **Political Spin**: Advertising "green" achievements while lobbying against environmental regulations

- **It's the Law, Stupid!**: Advertising environmental achievements already mandated by law

- *From: StopGreenwash.org*

Is Green *really* Green?
LEED

- Initially established by the U.S. Green Building Council (USGBC)

- Assigns points for:

- energy efficiency

- site renovation

- innovative design

- efficient waste management

- use of recycled materials

- access to public transit

- use of building materials deemed to be "environmentally responsible"

- awards "platinum", "gold", or "silver" status

Question: Does this translate to a healthier indoor environment for the occupants?

LEED Study by EHHI*

- Green building market is predicted to more than double from today's $36–49 billion to $96–140 billion by 2013
- Building materials such as metals, adhesives, plastics, solvents, flame retardants, sealants and biocides can become airborne and expose occupants
- LEED's "New construction and renovation" Category awards 15 points out of a possible 110 for "indoor environmental quality" (less than 15% of total points)

* Connecticut non-profit research organization

LEED Study by EHHI

- "Platinum" status can be awarded without <u>any</u> points from the category intended to protect human health
- The USGBC response to the EHHI study:
- Criticized the EHHI report for singling out the Indoor Environmental Quality section as the only place that LEED deals with public health, and;
- Stated that LEED supports low-emitting, alternative transportation… (which) encourages energy efficiency…and is linked with the worldwide public health impacts of climate change and emissions from coal-burning power plants

Is Green *really* Green?
Energy Star

- Developed by the US government 16 years ago to certify efficiency among products that use electricity, and to reduce energy usage in homes, businesses and government offices

- Consumer Reports: *"We're not saying that they (manufacturers) lie, but the testing procedures that they're following allow them to report data that's just simply not accurate.."*

Energy Star

- Examples:
- Refrigerator measurements taken with ice makers turned off
- Dishwashers tested with a clean load
- Televisions are tested based on the energy they consume when the unit is **off**
- Clothes dryers, ovens, water heaters, toaster *aren't even certified*, and yet some manufacturers put the Energy Star rating on these products
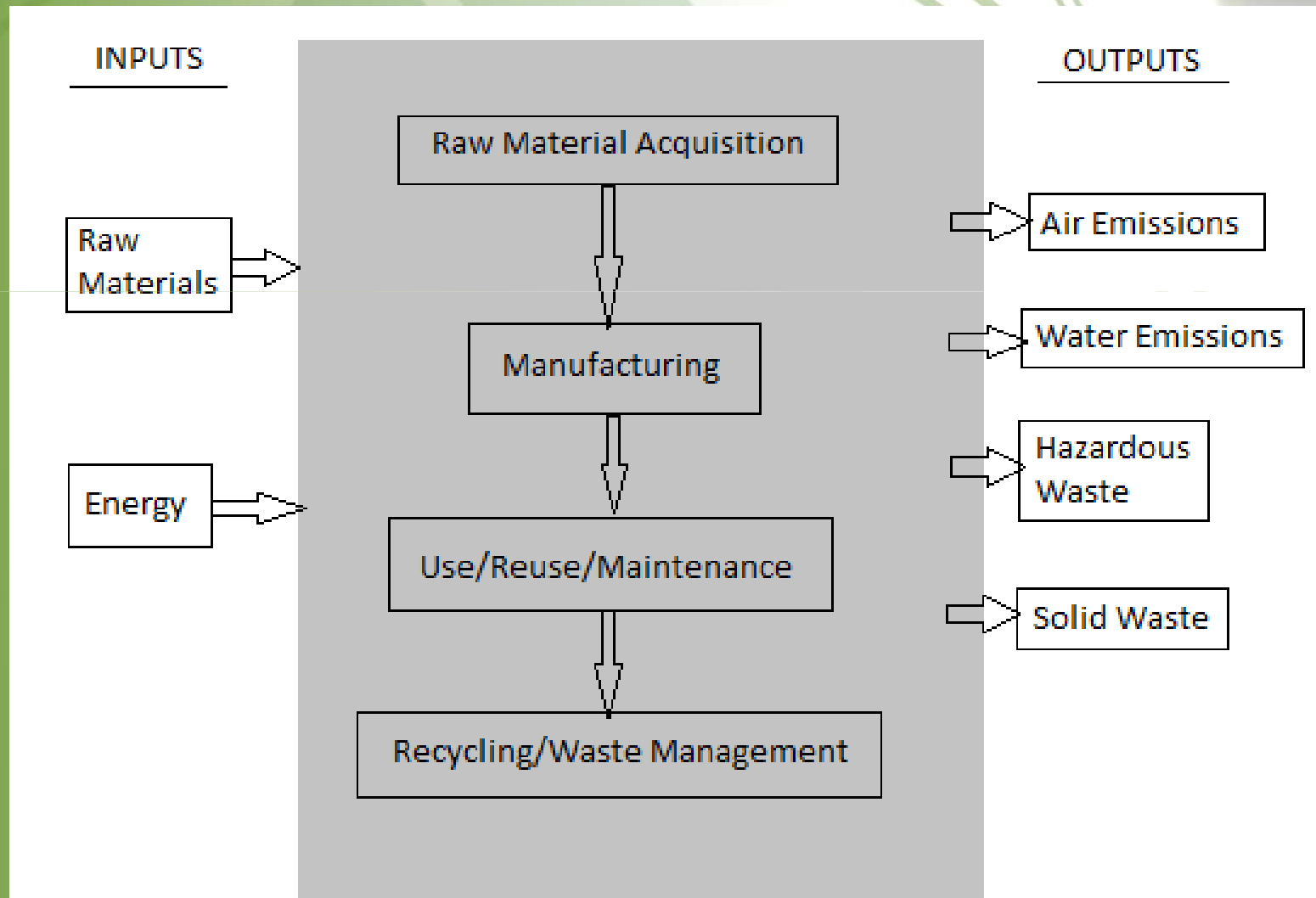
Some business "tools" you may want to consider

- Product **Life Cycle Assessment**
- Recycling
- Hazardous waste minimization
- Green Chemistry
- Energy conservation
- Carbon Footprint reduction
- ISO 14001
- And **many** more….

Life Cycle Assessment

- "Cradle-to-Grave" approach

INPUTS

OUTPUTS

Raw Material Acquisition

Raw Materials →

→ Air Emissions

Manufacturing

→ Water Emissions

Energy →

→ Hazardous Waste

Use/Reuse/Maintenance

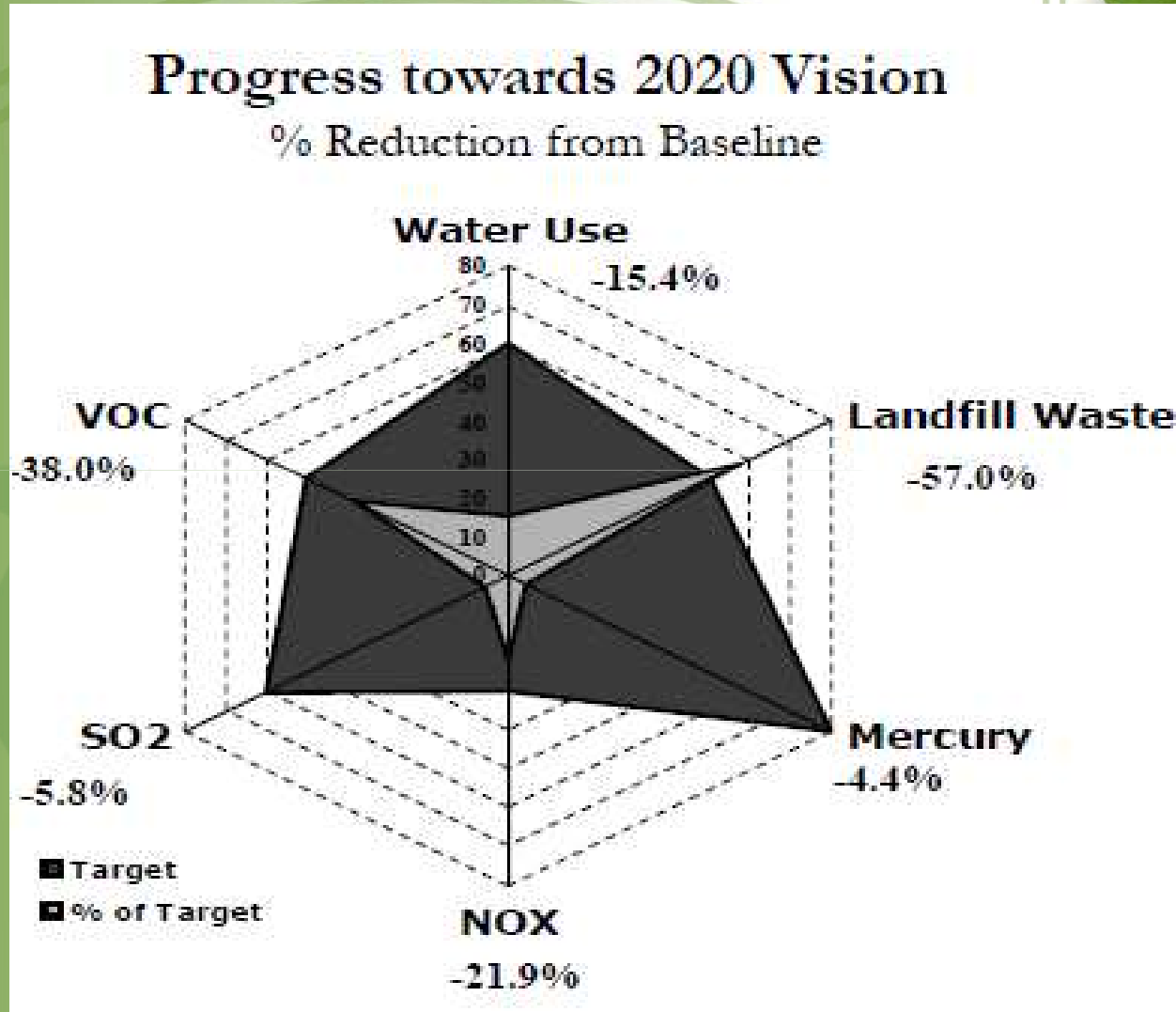→ Solid Waste

Recycling/Waste Management

Thoughts for Action

- State policies and goals as clearly as possible

- Ask for employee input (!)

- Don't try to do it all – be smart in what you choose, and study it thoroughly to weigh the pros and cons

- If you're early in establishing a Sustainability effort, go for the low-hanging fruit first – e.g. basic energy conservation

- Be transparent and honest when putting claims together - ask the questions that the skeptics will BEFORE you make a claim, and vet the answers

Quantify when possible

Progress towards 2020 Vision
% Reduction from Baseline

From: "Alcoa and Environmental Sustainability"

Thoughts for Action

- If you already have a Sustainability effort, benchmark with other firms you admire

- Track progress with concrete metrics that are clearly explained to stakeholders

- Make sure that your plans align with the culture of the organization

In Summary

- Be skeptical, not cynical
- Nearly everything is a tradeoff – balance is the key
- Consider external factors
- Do your research, and do things because you believe they will have an impact!

RESEARCH INDICATES THAT SCIENTISTS DON'T HAVE ALL THE ANSWERS