METRICS THAT MATTER

You get What you Measure

Valerie Ann Lee, J.D. M.S. Civ. Eng., President
Environment International Ltd.
&
Pamela J. Bridgen, Ph.D., MBA, CEO
Environment International Ltd

TODAY'S PRESENTATION

- Sustainability -- the business context
- EMS/ISO 14001 -- a management framework for success
- Metrics (or performance indicators) -- the foundation for the framework
- LEED Certification -- going from green to platinum, LEED as metrics and best management practice
- Interface Flooring case study

SUSTAINABILITY

Meeting the needs of today's generation without compromising the ability of future generations to meet their own needs

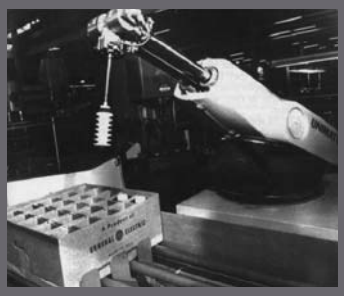
World Commission on Environment and Development (Brundtland Report), 1987

THE SUSTAINABILITY TRIAD

THE TRIPLE BOTTOM LINE

- Ecological/Environmental Health
- Economic Prosperity
- Social Equity

Historic Business Perspective on Environment and Sustainability

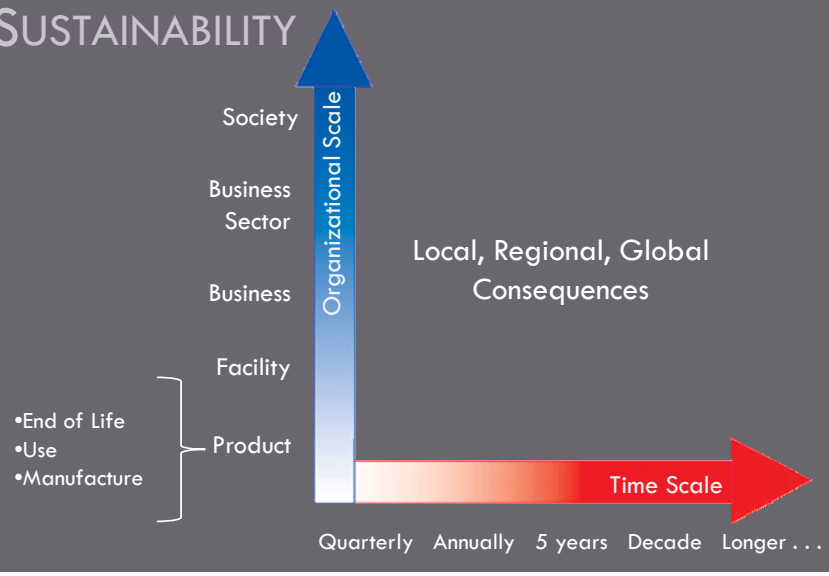


- Environmental and "social" expenditures reduce profitability
- Environmental and corporate social responsibility is primarily a risk management issue
- Misperception -- Profit maximization precludes consideration of social and environmental effects
- What's profit?

Today's Reality

- Management quality is a factor in stock market performance
- Good business management involves management for sustainability
- "Business-smart" approaches to sustainability can produce return on investment and positive image

SUSTAINABILITY



THE MANAGEMENT CHALLENGE

- Much of the sustainability literature is aspirational rather than analytical
- There is no clear understanding of, let alone consensus around, what constitutes a sustainability objective or standard

From Sustainability Aspirations to Concrete Outcomes

- Achieve business (or organizational) objectives and be responsive to the board and shareholders
- Apply sustainability principles, frameworks and metrics to achieve "sustainability outcomes and positive business returns"
  - Better/good for the natural environment
  - Contribute to economic prosperity and social equity
  - Decreased costs and or increased returns, positive image

The Foundation for Profitable Sustainability

- Management systems *with*

  Effective metrics to track business and sustainability performance – sustainability performance indicators (SPI)

Targeting Your Efforts

The Management System

ISO 14001: One Framework for Sustainability

- Integrated approach with company players tailored to company and easily tailored to sustainability
- Framework with concrete objectives, targets, and performance tracking through metrics and management review
- Comprehensive approach to achieve short-term and long-term sustainability and business objectives

Components of an Sustainability Management System

- Policy
- Planning
- Implementation and Operation
- Checking and Corrective Action (Monitoring and Measuring)
- Management Review

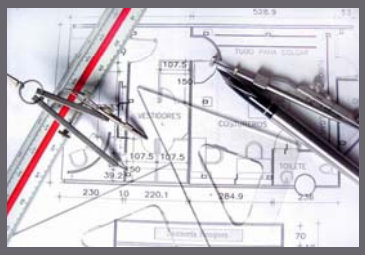
Sustainability Policy

An organization's management develops a policy that commits to:

- Principles of sustainability
- Compliance with regulations
- Continuous improvement

Planning

- An organization develops a plan to implement its sustainability policy
- Plan must address
  - Environmental/sustainability aspects and impacts
  - Legal and other requirements
  - Objectives, targets ***and metrics!***
  - Management



Examples of Aspects and Impacts

Aspect		Potential Impact
Use of paper and aluminum in the office	→	Generation of solid waste
Use of pesticides and fertilizers for grounds keeping	→	Water pollution & air pollution

Examples of Aspects and Impacts

Aspect		Potential Impact
Outsourcing manufacturing offshore	→	Supporting unfair labor practices
Locating business in a suburban office park	→	Increased employee reliance on private automobile

Implementation & Checking and Corrective Action

Implementation

- Applying standard operating procedures
- Collecting information for metrics

Checking and Corrective Action

- Synthesize information
- Produce reports discussing performance with metrics
- Develop actions for improvement

Performance Metrics or Indicators

Key Issues in Developing an Appropriate Mix

WHO IS USING OR REVIEWING THEM?

- **Business Managers (internal)**
  - Production/line
  - Purchasing/outsourcing
  - Human Resources
  - Public Affairs
  - CEO
  - Board
- **Shareholders (external)**
- **Stakeholders/public (external)**

WHAT IS THE *PURPOSE/USE*?

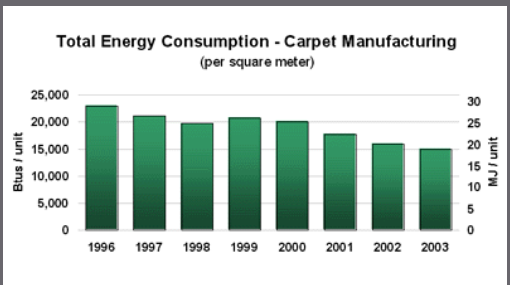
- **Understand current status – position with respect to Management System targets, industry benchmarks, external impacts (+/-)**
- **Understand trends**
- **Confirm priorities**
- **Provide the necessary information to managers and others for continual improvement and corrective actions**
- **Understand the business costs and benefits of actions taken in the short and long-term (ROI)**
- **Provide information to regulators and stakeholders**
- **Other? Suppliers?**

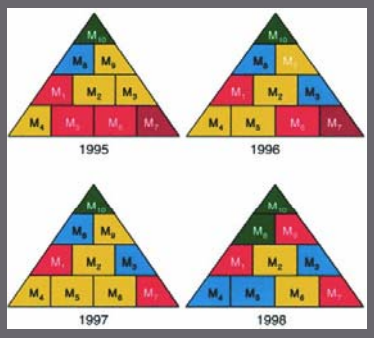
Nature of the Business/Organization and Scope

- **Type**
  - Manufacturing
  - Service
  - Retail
- **Scope or Boundary**
  - Facility, business, business & suppliers
  - Immediate area of facility, regional, international
  - Consider end-of life – from useful product to retirement

How Many Metrics/Indicators

- **Enough to inform**
- **Not so many to overwhelm**





Qualities of Good Metrics

- Simple, easily understood by the target audience
- Accurate and reproducible
- Quantitative where possible
- Relevant – tracks what is important
- Robust, provide a wealth of information from a management to assist in continuous improvement
- Allow comparisons for benchmarking
- Unbiased measure of performance
- Produce information that is "worth" the cost of collection or builds on information already collected for other purposes
- With respect to stakeholders, are accepted by the community at-large

Focus of Metrics

- **Operations of the business or organization**
  - Inputs/use of resources
  - Outputs (intended and unintended)
- **Management**
  - Steps being taken to influence performance
  - Focuses on internal management policies and tactics
- **Environmental/social state or condition**
  - Current state of environmental, social equity, and economic quality
  - How current operations and changes in operations affect that state

Environmental Metrics Regarding "Operations"

- Materials used
- Materials reused/recycled
- Non-product output – waste produced
- Pollutant releases
- Energy Consumption

Illustrative Environmental Metrics

- Amount of resource use (water) and costs associated with the water used
- Amount of energy used and costs associated with use
- Amount hazardous materials used in manufacturing product (aggregate and normalized to unit produced) and costs associated with amount used)
- Percent recycled matter used in manufacturing each product and costs/benefits associated with recycled materials as compared to "new" materials
- Emissions to the environment (aggregate and normalized)

EXAMPLE

Policy	Protect the environment for future generations
Aspect & Impact	Air emissions Contribution to global warming
Objective	Reduce all green house emissions 20% by December 2011
Target	Reduce greenhouse emissions by 5% per year
Metrics	•Lbs CO^2/yr •Lbs of CH^4/yr •$ spent per amount of lbs of gases reduced •$ saved as a result of changes

Many Other Examples

SOCIAL METRICS/INDICATORS

- **Injury, lost days, and absentee rates**
- **Composition of senior management**
- **Policies on freedom of association, child and forced labor, discrimination, etc.**
- **Diversity of workforce**
- **Compensation as compared with minimum wage or some other standard (living wage?)**
- **Social policies, health insurance etc.**
- **Vendor/supplier performance – number of suppliers maintaining SA 8000 etc.**

GRI Social Indicators

Social

CATEGORY	ASPECT
Labor Practices and Decent Work	Employment Labor/management relations Health and safety Training and education Diversity and opportunity
Human Rights	Strategy and management Non-discrimination Freedom of association and collective bargaining Child labor Forced and compulsory labor Disciplinary practices Security practices Indigenous rights
Society	Community Bribery and corruption Political contributions Competition and Pricing
Product Responsibility	Customer health and safety Products and services Advertising Respect for privacy

Economic Metrics

- Even more difficult than social
- Purpose from the external stakeholder GRI perspective is to measure direct and indirect impacts of an organization
- Direct
  - Monetary flows between the organization and its key stakeholders
  - How the organization affects economic circumstances of stakeholders
- Indirect
  - Externalities that create impacts on communities broadly defined
  - "…[G]iven the diversity of situations facing reporting organizations, GRI has not at this point identified a single, generic set of indicators." Sustainability Reporting Guidelines, GRI, 2002

Case Study – Interface Inc.

•12 facilities in US and around world. Have an ISO 14001-based EMS

•Fronts of Sustainability:

- Eliminate waste
- Eliminate harmful emissions into the biosphere
- Use renewable energy sources
- Create self-sustaining, closed-loop products and processes
- Develop alternatives to the physical movement of people and material, using resource-efficient means of transportation
- Create a culture that integrates the principles of sustainability into what we do everyday
- Pioneer sustainable commerce

Case Study – Interface Inc.

•12 facilities in US and around world. Have an ISO 14001-based EMS

•Fronts of Sustainability:

- Eliminate waste
- Eliminate harmful emissions into the biosphere
- Use renewable energy sources
- Create self-sustaining, closed-loop products and processes
- Develop alternatives to the physical movement of people and material, using resource-efficient means of transportation
- Create a culture that integrates the principles of sustainability into what we do everyday
- Pioneer sustainable commerce

www.eiltd.net

2007 Environment International Ltd.

INTERFACE, INC. – ENVIRONMENTAL METRICS

For each of their twelve facilities, Interface tracks the following on a per unit of product basis:

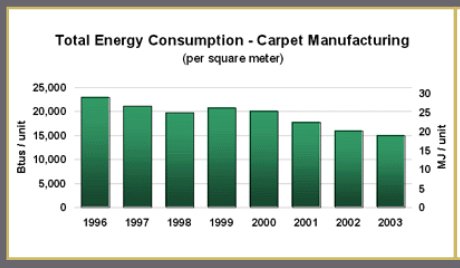
- greenhouse gas emissions
- non-renewable energy
- solid waste generated
- water consumption

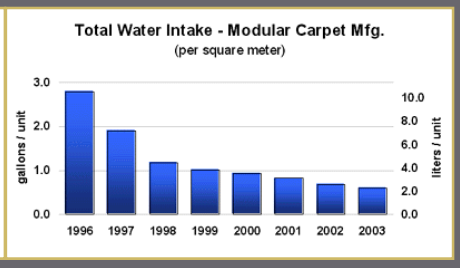
ADDITIONAL CASE STUDIES/EXAMPLES

Organization Level Approach

Supply Chain Approach

INTERFACE, INC.

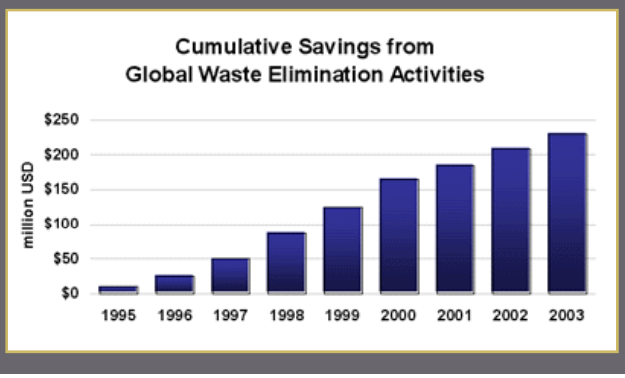




www.eiltd.net

INTERFACE, INC.

"Sustainability makes perfect business sense and it will continue to be a defining characteristic of successful businesses of the future." – *Interface website*



www.eiltd.net

LEED

Leadership in **E**nergy and **E**nvironmental **D**esign

Nationally accepted benchmark for design, construction and operation of green buildings

HOW DOES LEED WORK?

- Point based system
- Projects earn LEED points for satisfying the following six specific green building criteria:
  - Sustainable Sites
  - Water Efficiency
  - Energy & Atmosphere
  - Materials & Resources
  - Indoor Environmental Quality
  - Innovation in Design

LEED Certification

- Depending on the point totals earned within each six criterions, LEED certification is available in the following four progressive levels:
  - Certified
  - Silver
  - Gold
  - Platinum

LEED Certification

- LEED certification is obtained through an independent third-party verification that ensures a building project is:
  - Environmentally responsible
  - Profitable
  - Healthy place to live and work

PROJECT PROFILES *SILVER CERTIFIED (FROM USGBC.ORG)*

Bronx Library Center, New York, N.Y.

90 % of demolition debris recycled
20% energy cost savings
80% of wood is FSC certified

LEED® Facts
Bronx Library Center
New York, N.Y.

LEED for New Construction
Certification awarded July 27, 2006

Silver	**34***
Sustainable Sites	7/14
Water Efficiency	3/5
Energy & Atmosphere	3/17
Materials & Resources	7/13
Indoor Environmental Quality	9/15
Innovation & Design	5/5

*Out of a possible 69 points

www.eiltd.net

PROJECT PROFILES *PLATINUM CERTIFIED (FROM USGBC.ORG)*

Joe Serna Jr. California EPA Headquarters Building. Sacramento, California

34% more energy efficient
200+ tons of waste diverted from landfill each year
$12,000,000 increase in asset value

LEED® Facts
Cal/EPA
Sacramento, CA

LEED for Existing Buildings
Certification awarded November 1, 2003

Platinum	**60***
Sustainable Sites	13/16
Water Efficiency	3/5
Energy & Atmosphere	20/22
Materials & Resources	10/10
Indoor Environmental Quality	12/18
Innovation & Design	2/5

*Out of a possible 76 points

www.eiltd.net

Project Profiles – CA, EPA

From Green to Platinum – Metrics that matter

- 25 story, 950,000 square foot office building built in 2000
- Refurbished in 2004 to become the first LEED for Existing Buildings Platinum certified
- Price of upgrades equaled $500,000
  - Increased water and energy efficiency
  - Reduced waste disposal costs
  - Lowered operation costs
  - Native plants and trees minimize storm water runoff and reduce heat build up
  - Installed low-flow toilets, water-free urinals, and water efficient fixtures

Project Profiles – CA, EPA

From Green to Platinum – Metrics that matter

- By keeping track of the environmental metrics, substantial financial benefits can be measured and analyzed
- Thomas Properties invested $500,000 in upgrades to equipment, operations and employee practices for the CA, EPA building.
- Those improvements generated **$610,000** in annual savings, paying for themselves in less than one year!

Benefit Highlights:
Joe Serna Jr. California Environmental Protection Agency Headquarters Building

Action Area	Annual Savings
Systems calibration, monitoring, commissioning, and maintenance for energy performance	$190,000
After-hours heating and lighting controls	$100,000
Exterior lighting systems	$9,500
Landscaping and grounds management	$95,000
Water-efficient landscaping, restrooms and cooling cycles	$19,000
Elimination of garbage can liners	$60,000
Collection and storage of recyclables	$46,000
Occupant recycling	$29,000
Reduced landfill disposal costs	$10,000
Entryway cleaning to prevent particle and dirt buildup	$9,500

CONCLUSION