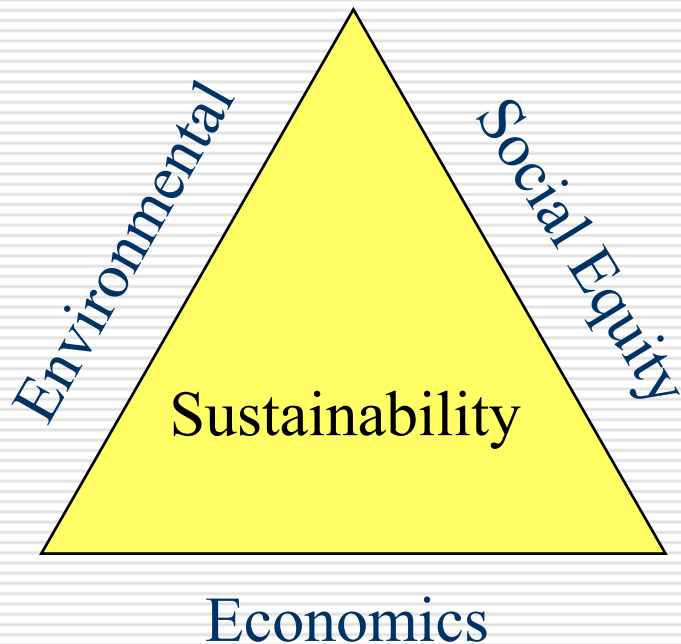


Environmental Stewardship in Transportation



Sustainability Overview
Sustainability Frameworks
Managing Sustainability

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• Sustainability is the use of goods, services, processes, and systems to conserve energy and natural resources, become economically efficient, is safe, and socially rewarding.

UMass-Lowell Center for Sustainable Production



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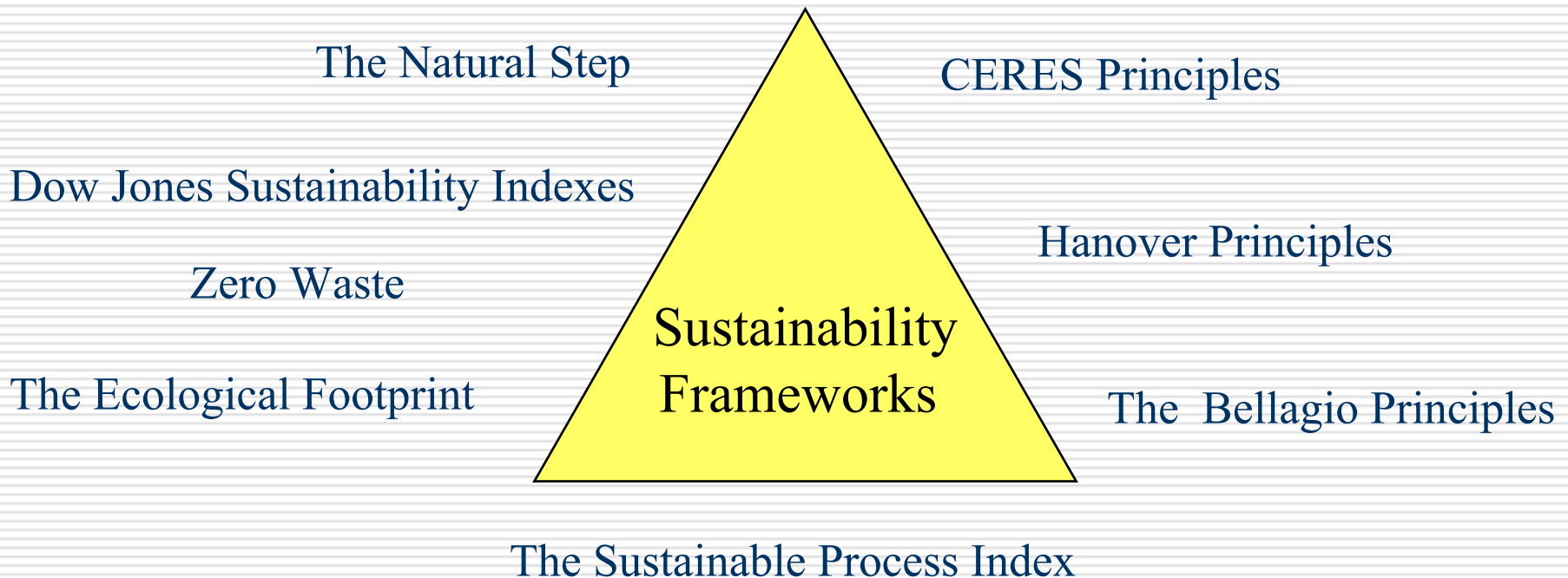
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2001 Environmental Sustainability Index



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The Natural Step Framework:

is an approach for addressing environmental challenges based on consensus and systems thinking. Its purpose is to develop and share a common framework comprised of easily understood, scientifically-based principles that can serve as a compass to guide society toward a just and sustainable future.

The Alliance for Sustainability



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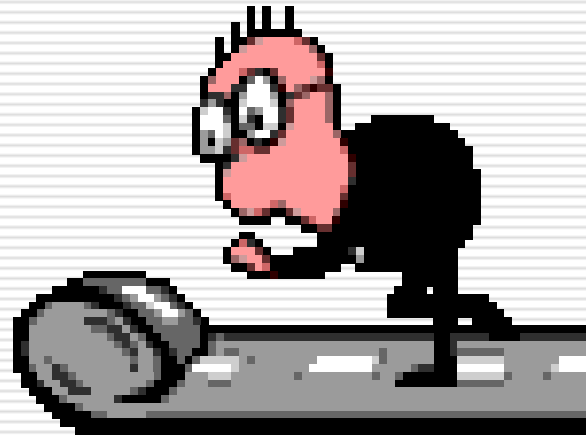
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The Natural Step: 4 Conditions for Sustainability:

1. Keep it in the Crust.
2. Don't Make Nasty Stuff.
3. Don't Pave Paradise.
4. Be Thrifty and Fair.



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Dow Jones Sustainability Indexes

A business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental, and social developments.

Investors perceive sustainability as a catalyst for enlightened and disciplined management and thus a crucial success factor.



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Dow Jones Sustainability Indexes

1. Sustainability Policy and Strategy.
2. Management of Opportunities.
3. Management of Sustainability-related risks and costs.
4. Operational.



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CERES

In the fall of 1989, CERES announced the creation of the Valdez Principles (later renamed the CERES Principles), a ten-point code of corporate environmental conduct to be publicly endorsed by companies as an environmental mission statement or ethic.



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CERES Principles

Protect the Biosphere

Reduction of Wastes

Risk Reduction

Environmental Restoration

Management Commitment

Sustainable use of Natural Resources

Energy Conservation

Safety Products & Services

Inform the Public

Audits & Reports



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GRI

The Global Reporting Initiative develops and disseminates globally applicable Sustainability Reporting Guidelines. These Guidelines are for reporting on the economic, environmental, and social dimensions of their activities, products, and services.



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GRI Reporting Guidelines

- Vision and Strategy
- 2. Organization Profile
- 3. Governance Structure/Management Systems
- 4. GRI Content Index
- 5. Performance Indicators



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Major Elements of Sustainability Initiatives:

1. Social, economic, and environmental aspects
2. Commitment: Continuous improvement and performance outcomes.
3. Documented procedures for goal and target setting.
4. Engage cross-functional teams.
 - Diffusion of awareness and set legitimacy
 - Document accountability for the goals.
7. Management Involvement.



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Transportation and Sustainability – Where?

Maintenance: Vehicle Fleet
 Recycling Materials
 Material Stockpiling
 Winter Operations/Street Sweepings

Operations: Traffic Control/Congestion
 Reduce Air Pollution

Engineering: Green Design
 Materials Use



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Lets Talk
Management
(and make it work)

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Organizations are knowingly concerned with achieving and demonstrating sound environmental performance by controlling the impacts ---.

They do so in the context of increasingly stringent legislation, the development of economic policies and other measures that foster environmental protection, and increased concern by interested parties about environmental matters and sustainable development.

To be effective, they need to be conducted within a structured management system that is integrated within the organization.

ISO 14001:2004(E)



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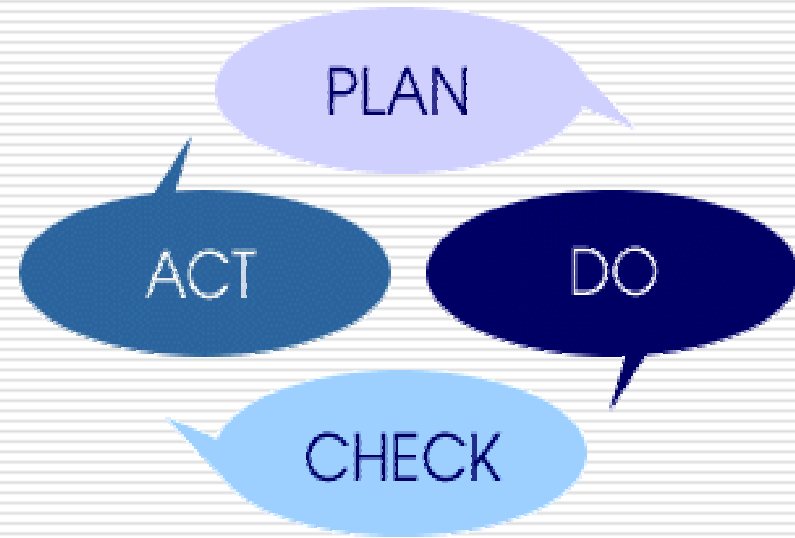


Environmental Stewardship in Transportation Through Waste Management, Materials Reuse & EMS

Environmental Management System

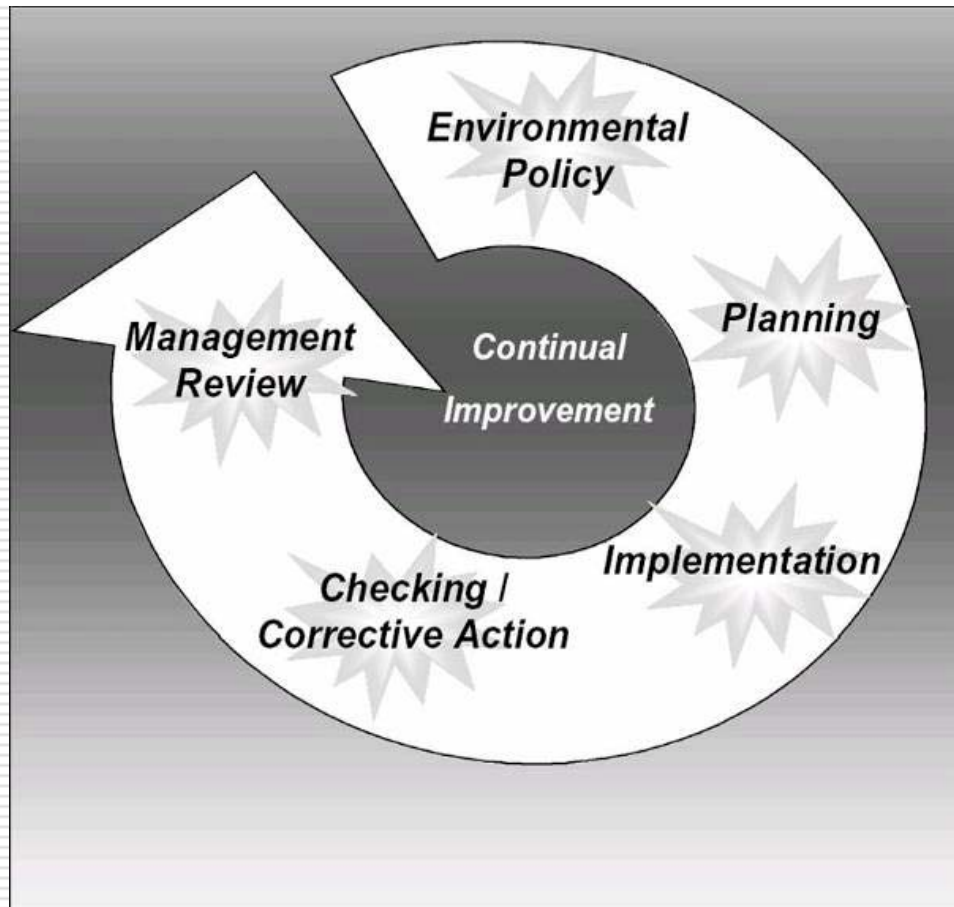
Formalized sets of management procedures and measurement tools to improve the organization's environmental performance.

A very good tool to help address the social, economic, and environmental elements of sustainability



“It is your Plan”

Environmental Stewardship in Transportation Through Waste Management, Materials Reuse & EMS



The EMS
Process

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Requirements for the Environmental Management System

Policy

Objectives and Targets

Action Plans

Roles and Responsibilities

Communication

Records Management

Monitoring and Measuring

Management Review

Aspects

Legal Requirements

Operational Controls

Training

Documentation

Emergency Preparedness

Auditing



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Environmental Policy

Identifies scope of EMS; continuous improvement; P2; framework for setting and reviewing objectives and targets; documented and communicated to employees; made available to the public; and signed by top management

Commitment to continuous improvement & performance; diffusion of awareness and set legitimacy; and management involvement.



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Planning

Environmental aspects, legal and other requirements, and objectives and target

Documented objectives & targets; specific & measurable goals; account for legal requirements; designation of responsibility; and means & time frame for achievement.

Documented procedures for goal target setting; accountability for the goals; and the engagement of cross-functional teams



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Implementation & Operation

Resources, roles, responsibility, and authority; competence, training, and awareness; communication; documentation; control of documents; operational controls; and emergency preparedness

Essential human, financial, technical resources; significance training; internal communication management; EMS manual document and records controls; action plans; and emergency plans.

Diffusion of awareness throughout the organization; document accountability for the goals; documented procedures for goal target setting;



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Checking

Monitoring and measurement; evaluation of compliance; nonconformity, corrective action and preventive action; control of records; and internal audits.

Maintain procedures for measuring and monitoring; records of periodic compliance evaluations; responding to nonconformities and actions to prevent nonconformities; records control; and procedures for internal audits and auditor competency.

Document accountability for the goals; continuous improvement and performance outcomes.



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Management Review

Management reviews include the results of the internal audits; communication from external parties; environmental performance of the organization; achievement of objectives and targets; status of correctives and preventive actions; previous management review follow-ups; changing legal requirements; and recommendations for improvement.

Social, economic, and environmental aspects; continuous improvement and performance outcomes; diffusions of awareness and set legitimacy; accountability; management review.



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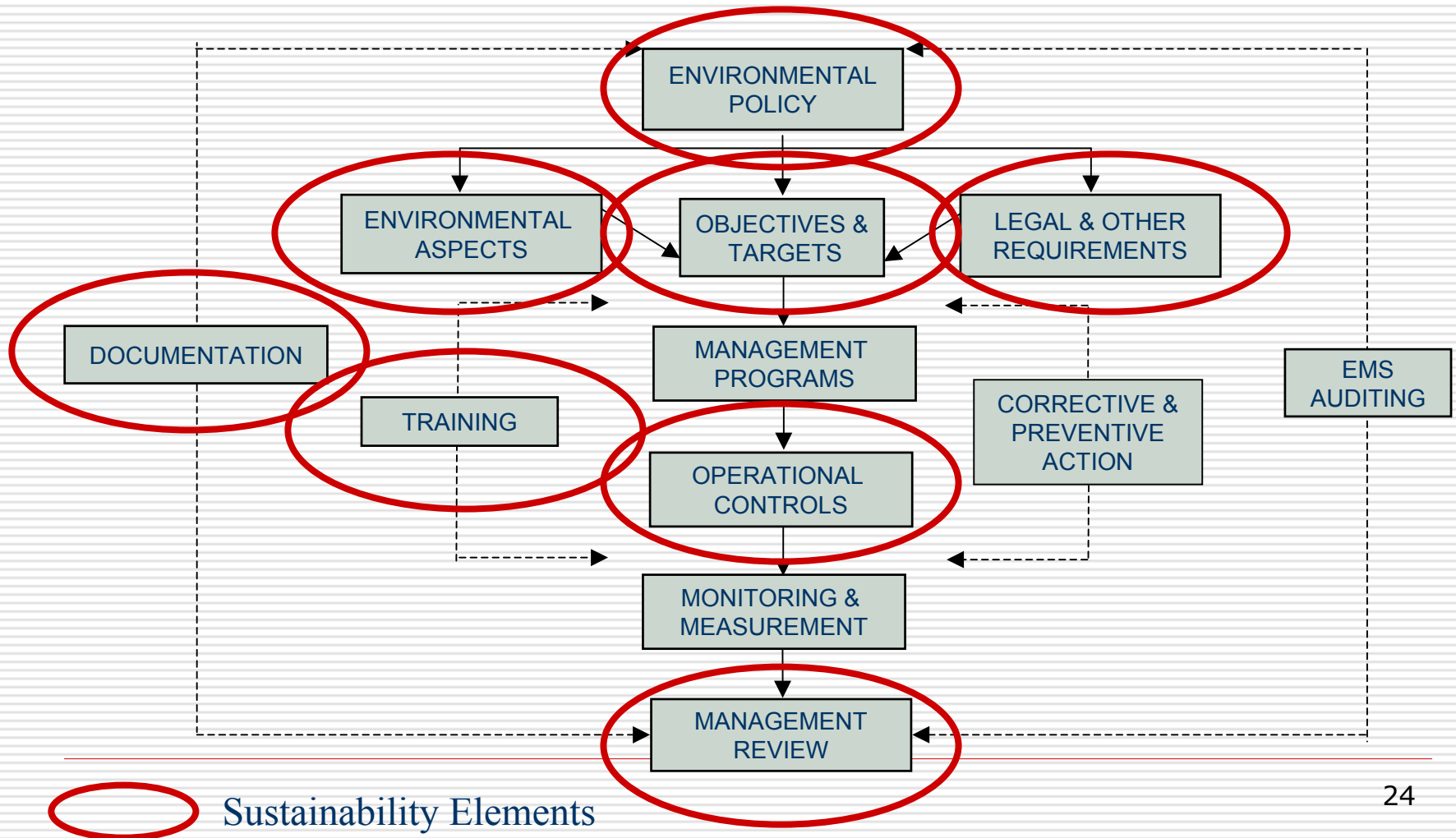
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The EMS Is a Process



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Complimentary Tools for a Responsible Organization

The
Management
System

The
Guiding
Framework

EMS



Sustainability



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Don't Fear Failure: Innovation is about taking risks and learning from failure.....

Michael Dell



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