

# ISO 14001 & Risk Identification

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Glenn Neu, AM&T

11/12/2019

1. Learn about the **business impacts and benefits** of an ISO 14001 Environmental Management System
2. Learn about the **elements** of ISO 14001 related to **risk**
3. Understand how to establish a **risk rating** and determine ISO 14001 "Significant Environmental Aspects"
4. Discuss setting **objectives** for ISO 14001 to reduce environmental risk



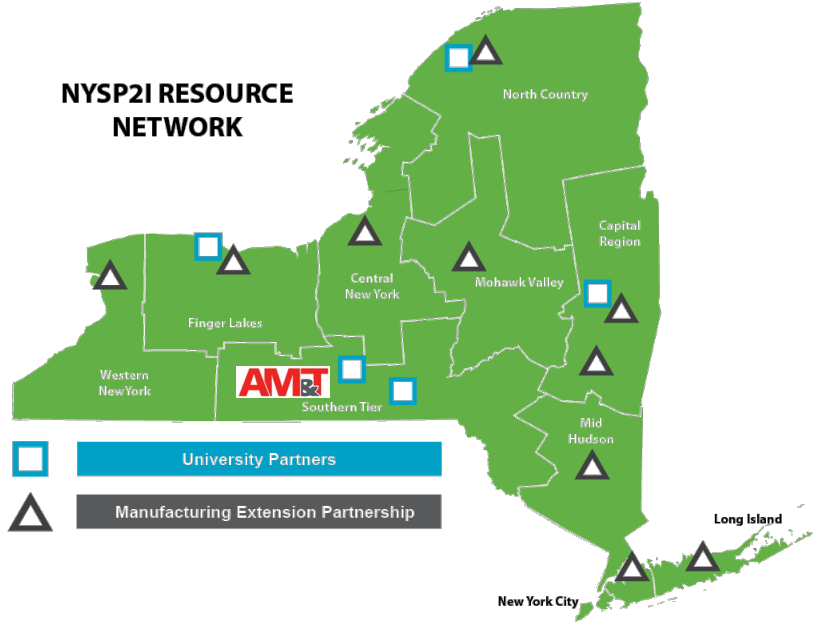
- 8:30 – 9:00 Check-In & Breakfast
- 9:00 – 9:30 Welcome from NYSP2I and AM&T
- 9:30 – 10:10 **Introduction to ISO 14001 EMS**
- 10:10 – 10:20 *Break*
- 10:20 – 11:00 **Introduction to Risk in ISO 14001**
- 11:00 – 11:10 *Break*
- 11:10 – 11:50 **Implementing ISO 14001 and Managing Risk**
- 11:50 – 12:30 Open Discussion



# NYS Pollution Prevention Institute

- Headquarters at RIT
- Established in 2008
- \$3.9M in annual NYS funding administered through the NYS Department of Environmental Conservation
- Focus areas include:
  - Sustainable Manufacturing Assessments
  - Supply Chain Sustainability
  - Technology Commercialization
  - Food Waste Diversion
  - Emerging Contaminants
  - Outreach & Education
  - Research & Development

### NYS P21 RESOURCE NETWORK



Department of Environmental Conservation



**NEW YORK**  
Manufacturing Extension Partnership



Cornell **CALS**  
College of Agriculture and Life Sciences



**Rensselaer**

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# Assistance for NYS Companies, Municipalities & Non-Profits

- **Must be NY-based**
- **NYSP2I funding offsets the project cost to the organization**
  - Expenses are non-capital expenses
  - RIT's engineering, technical and project management services
- **Post-project reporting, metrics, case study**
- **Typical project takes about 4 - 8 months**

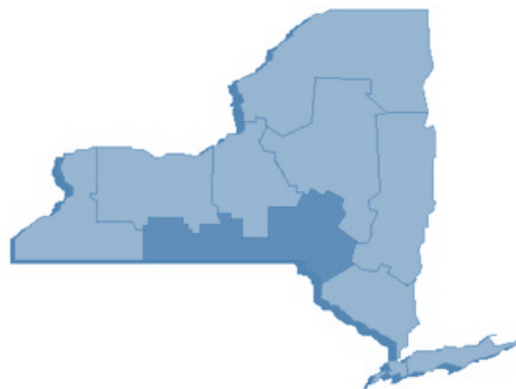
# Our Mission

***Helping Manufacturers  
Plan, Perform, Profit and Grow***



# About AM&T

- Not-for-profit
- Founded in 1988
- Serve 8 Counties in the Southern Tier
- MEP System
  - NY MEP
    - 10 Regional Centers
    - One State-wide Center
  - National MEP
    - National Network in 50 States and Puerto Rico



***Certified to the ISO9001-2015 Quality Standard***





# AM&T Services

- Growth and Innovation
  - Strategic and Operational Planning
  - Sales & Marketing
  - Export Assistance
  - New Product Development (NPD)
  - Entrepreneur Assistance
- People Development
  - Leadership Principles & Coaching
  - Supervisors Training – Training Within Industry
  - General Workforce
- Operational Excellence
  - Quality and Environmental Services: ISO9001, AS9100, ISO14000
  - Lean Enterprise and Six Sigma Programs
  - Information Technology
- And More...
  - Cybersecurity
  - Safety Programs
  - Grant Assistance



# The AM&T Value Proposition

- High Impact
  - Independent 3rd Party surveys confirm Impact of over \$782 million directly resulting from AM&T's work with companies in the Southern Tier over the last 5 years
- Sustainable Results
  - Documented Success Stories
  - Hundreds of references
- Holistic Approach
  - Ensures you are doing the right things, in the right order
  - Close relationships with economic development partners that may be able to help your business
- Affordable
  - Partially subsidized by New York State and the US Department of Commerce

# A 5-Year Report Card

Our success is evaluated by the impact of our work with clients in the Southern Tier, which is determined by the US Department of Commerce through an independent 3rd-party survey process.

## *Total Impact of 782 Million*

**551 Million**  
Total Increased/Retained Sales



**3917**  
Total Increased/Retained Jobs



**11 Million**  
Cost Savings



**26 Million**  
Investments



## Get to Know the Audience

- **Type of Business** (manufacturing, services, non-profit)?
- **Experience with a “management system”** (quality, safety, energy)?
- **Experience with ISO 14001** (certified, EMS, no EMS)?



# ISO 14001 Environmental Management System?

- A management system = means of **meeting objectives**
- An Environmental Management System (EMS) = helps an organization **identify, manage, monitor and control environmental issues** in a “holistic” manner to achieve objectives
- ISO 14001 EMS = framework for setting up a management system to assure a company’s environmental impact is being measured and improved
- Outcomes of an EMS:
  - Enhanced environmental **performance** (manage *environmental aspects*)
  - Fulfillment of **compliance** obligations
  - Address **risks and opportunities**
  - Achievement of environmental **objectives**

- **Suitable for organizations of all types and sizes;** private, not-for-profit or governmental
- Requires an organization **consider all environmental issues relevant to its operations:**
  - employees
  - air pollution
  - water and wastewater issues
  - waste management
  - soil and groundwater contamination
  - climate change mitigation and adaptation
  - resource use and efficiency
  - supply chain
- **Continual improvement** of an organization's systems and approach to environmental concerns

- **Better Business Performance** – ISO 14001:2015 aligns with the business strategies of the organization. Used as a business management tool, this will improve performance and drive real value by embedding healthy performance processes into the organization *earlier*.
- **Improved Reputation** – Create a positive impression on customers, suppliers, and competitors. Implementation also shows diligence and can increase value to customers and all other stakeholders.
- **Adoption of Risk-Based Thinking** – Introduction of risk and opportunity management will shift your management system from reactive to proactive. This will ensure that your organization will be able to identify risks and opportunities more effectively, thereby improving operational efficiency and reducing duplication, saving both time and money.

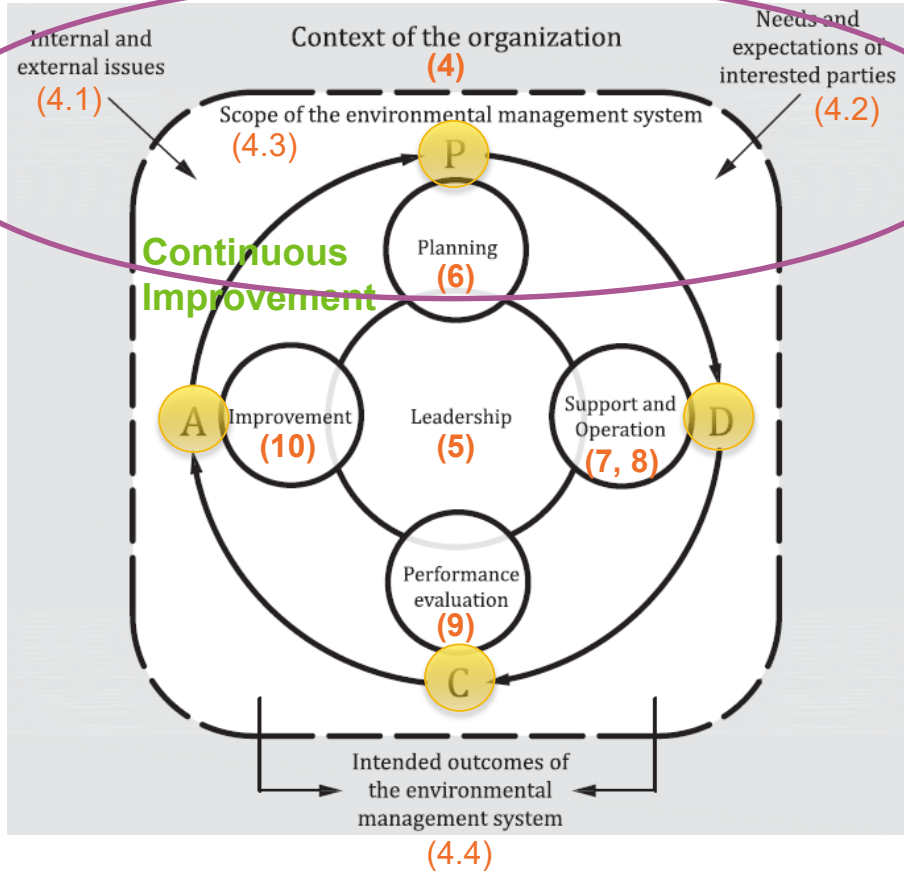
- **Preventing or reducing** adverse impacts on the environment
- **Mitigating the potential adverse effects** of environmental conditions on the organization
- **Fulfilling** compliance obligations
- **Enhancing** environmental performance
- **Influencing** how **products and services** are designed, manufactured, distributed, consumed and disposed by using a life cycle perspective
- Achieving **financial and operational benefits** from implementing environmentally sound alternatives that strengthen the organization's market position
- **Communicating** environmental information to interested parties





Founded on the Shewhart cycle of Plan, Do, Check and Act (PDCA) made popular by Deming:

- **Plan:** establish objectives and processes necessary to deliver results in accordance with the organization's environmental policy
- **Do:** implement the processes as planned
- **Check:** monitor and measure processes against the policy, including its commitments, environmental objectives and operational controls, and report the results
- **Act:** take actions to continually improve



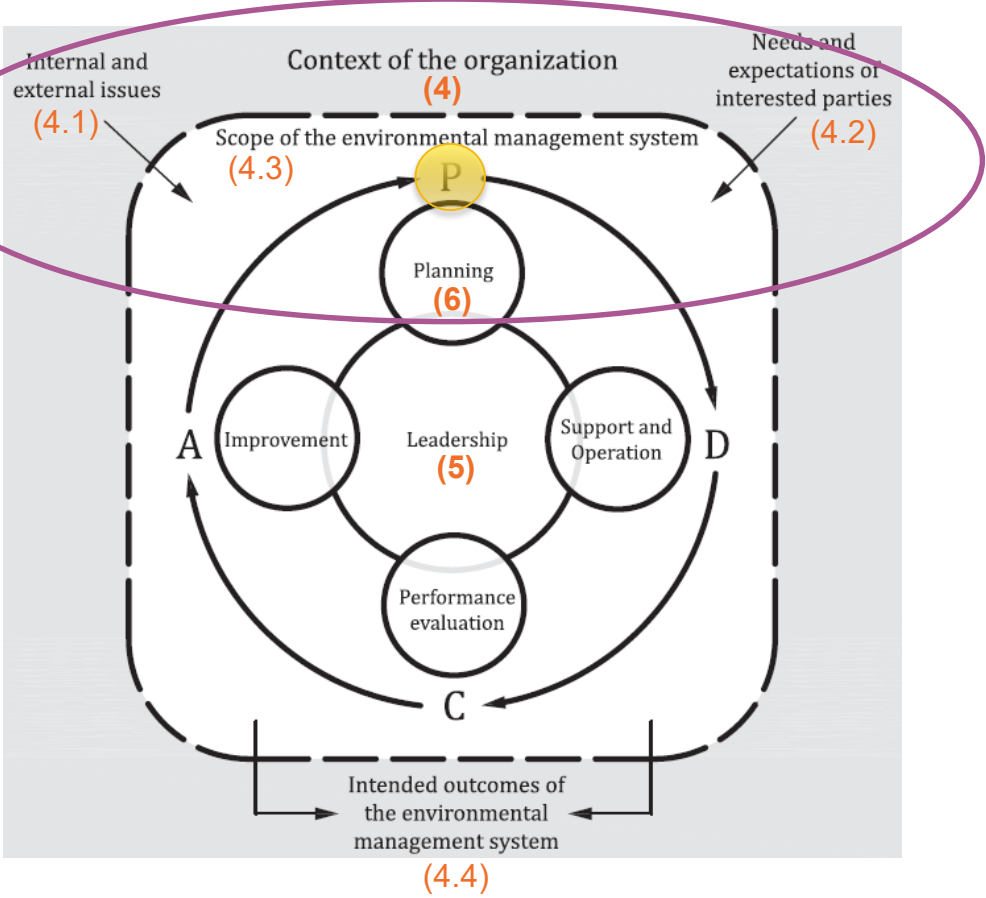
Actions to Address Risks & Opportunities

- (5) Leadership**
- Commitment
  - Environmental Policy

**Actions to Address Risks & Opportunities**

**(P)(6) Planning**

- Environmental Aspects & Emergency Situations
- **Significant** Environmental Aspects
- Compliance Obligations
- Objectives



- Top management shall define its organization's environmental policy, and ensure it is appropriate to the environmental impact of its **activities, products and services**.
- Commitment to **continuous improvement, prevention of pollution**, and to fulfill **compliance obligations**.
- Provide a framework for setting environmental **objectives and targets**.
- The policy shall be documented, communicated within the organization and made available to **interested parties**.

- Establish a **systematic approach** to risk, rather than treating it as a single component of an EMS
- By taking a risk-based approach, an organization becomes **proactive rather than reactive**, preventing or reducing undesired effects, and promoting **continual improvement**
- **Preventive action** is automatic when a management system is *risk-based*
- Risk is commonly understood to be negative (**threats**) – however there is a positive side of risk (**opportunities**)



Articulate the Organization's Objectives



Identify Stakeholders' and their Interests



Articulate the External and Internal Environment



Articulate the Context of the Risk Assessment



Define the Risk Criteria

## ISO14001 Related Components:

- Leadership and Commitment
- Environmental Policy
- Interested Parties
- Internal & External Issues
- Context of the Organization
- Significant Environmental Aspects

**High-level understanding of the important issues that can affect, either positively or negatively, the way the organization manages its environmental responsibilities.**

- **Internal Issues (Risks)**

- Food Safety and Food Defense
- Water (cleaning, conservation)
- Six organizational units (cultures)

- **External Issues (Risks)**

- Tomatoes from California
- Varied locations (benefits, regulations)
- Customers (scorecards, Kosher)



**KEY ISSUES**

## Customer

- Contract Manufacturers, distributors, Grocery stores, etc...

## Mgmt / Owner / Employees

- Family Ownership, Senior Management, Corporate, Management across 5 plants
- Employees

## Communities

- County (Town and Village)
- Other Communities (PA, CA, NJ)

## Regulatory

- SQF, ABI, and FDA, DEC, County

## Suppliers / Farmers

- Vegetable Supplier
- Chemical supplier
- Indirect suppliers (rail, trucking, packaging, recycling, etc...)

## Tenants

- Utility Services with Landlord and internal blow molder tenants

## SWOT Analysis for each Interested Party

Focus on strengths, minimize threats, and take the advantage of opportunities for each interested party

### Management / Owner

#### Strengths

What does company excel at and separate it from the competition

**Strong Core Values**

#### Weaknesses

What stops company from performing at its optimum level

**Lack of communication across plants**

#### Opportunities

Favorable external factors that give it a competitive advantage

**New market opportunity & technology**

#### Threats

Factors that have the potential to harm company

**Raw material comes from one supplier large distance from facility location**

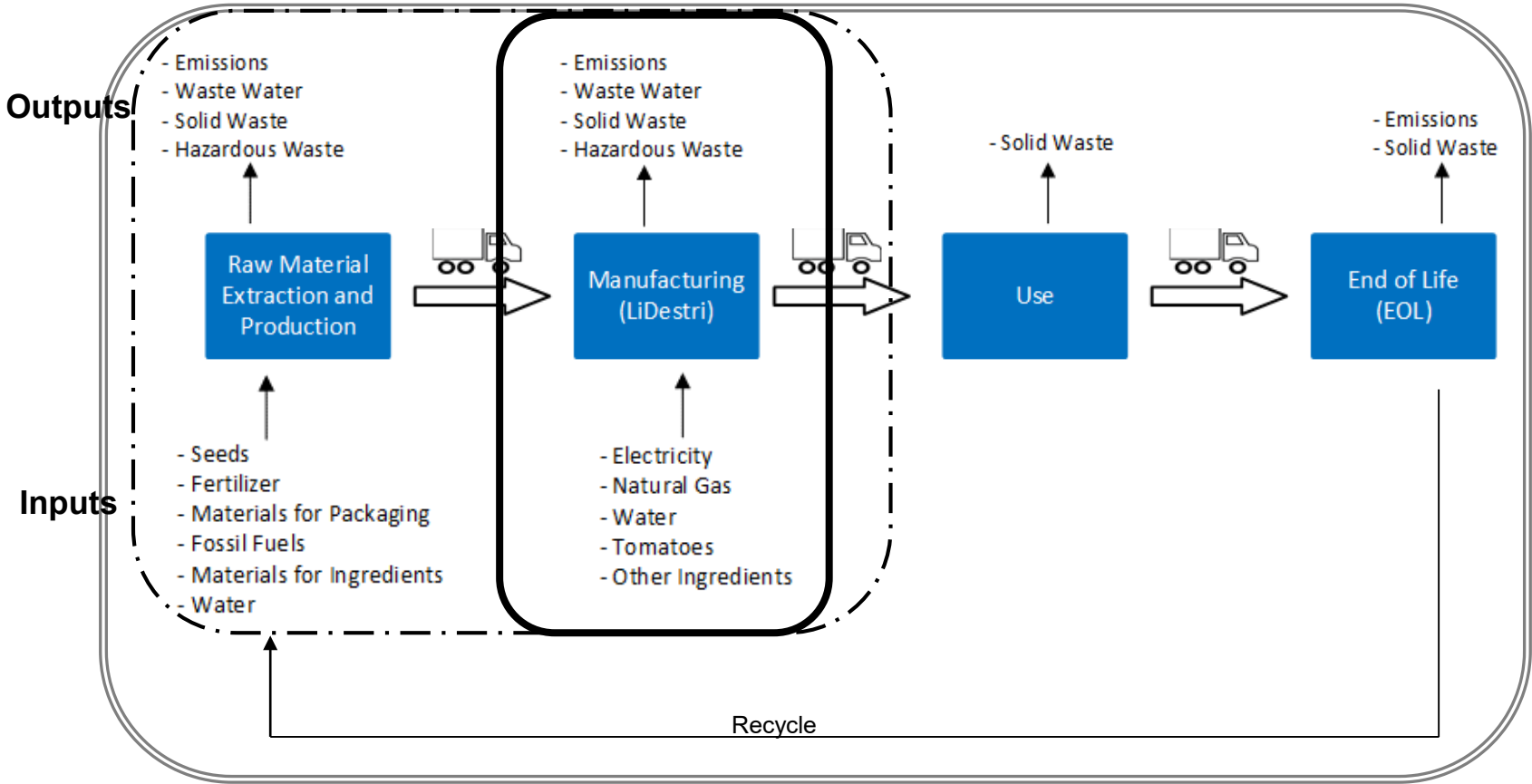


## In Scope (control & influence) -

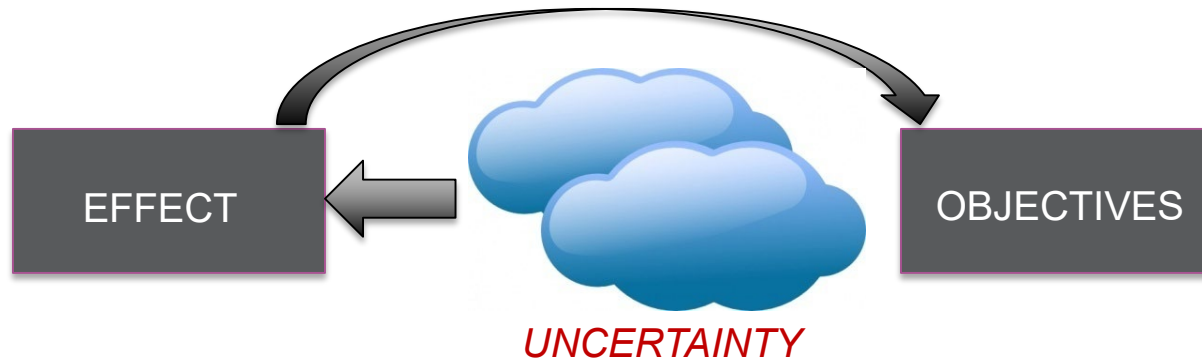
- All **internal activities** including maintenance, product manufacturing activities (labor, materials, equipment) , and contracted services
- All operations and activities that fall within the scope of **AIB-inspections, FDA/USDA approval, and SQF certification**
- **Contractors**, either contract employees (labor) or third-party contractors performing a service (construction) when working on-site.
- Where a **leasee occupies space** within production operations (e.g., blow molders ), the leasee’s activities are within scope, as these activities may contribute to environmental impacts of the operation.
- All **R&D/pilot/prototype** activities
- **Vehicles owned** by company

## Out of Scope –

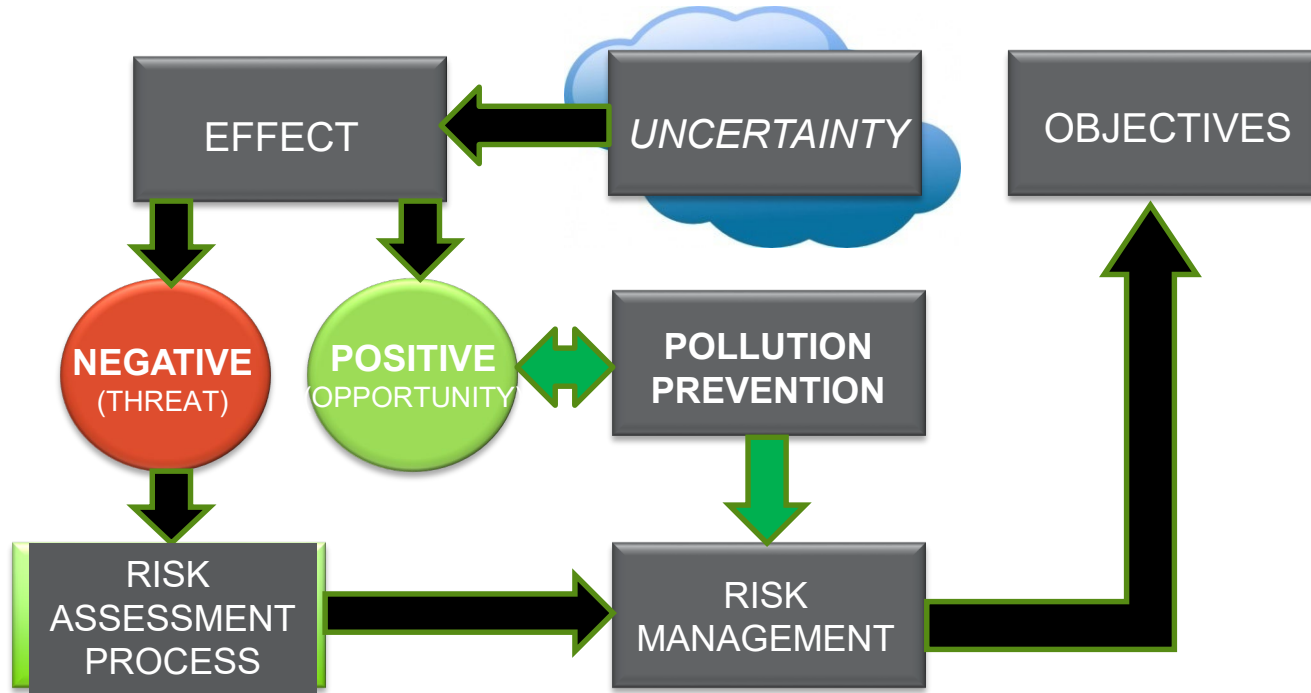
- The **leases / tenants** of commercial and industrial buildings
- **In-coming product** prior to taking receipt at dock with Certificate of Acceptance.
- Once product is loaded on trailer or rail, it is “**Freight on Board**” and not owned by company.
- **Raw material** production and quality of incoming ingredients and water
- **Non-company owned** vehicles or tractor trailers.
- However, if there is a **spill or release** from these vehicles while on company property, company is responsible for ensuring environmental impacts are reduced or avoided. Spill response and notification requirements/regulations are in effect.



***Risk*** = the effect of uncertainty; a deviation from the expected – positive or negative



Purpose of risk management is to identify and manage issues and situations that could prevent an organization from meeting its objectives.



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# Break

- **Rapidly changing business conditions introduce uncertainty into operations**
  - New customers with different requirements
  - Workforce changes due to changes in workload
  - Need for expanding sources of supply
  - Capacity changes
- **Several Quality Standards require evidence of risk management; number increasing**
  - ISO 9001      ISO 31000      ISO 14001
  - AS 9100      ISO 13485
- **Changing business conditions lead to uncertainty**
  - Changing legislation impacting environmental status
- **Risk Management provides effective method for identification and prevention of undesirable conditions**
- **Timely attention to risk issues can avoid disruptive and costly business constraints**

- The organization shall establish, implement, control and maintain the processes needed to meet the EMS requirements, and implement the actions identified to **address risks and opportunities**: **internal and external issues, interested parties, scope, environmental aspects, compliance obligations, objectives**, by:
  - Establishing **operating criteria** for the process(es)
  - Implementing **control** of the process(es) (e.g., engineering controls, hierarchy: elimination, substitution, administrative)
- Consistent with a **life cycle perspective**, the organization shall:
  - establish controls to ensure environmental requirements are addressed in the **design and development process** for the product or service
  - Determine environmental requirements for the **procurement** of products and services
  - Communicate environmental requirements to **external providers / contractors**
  - Consider potential significant environmental impacts from **transportation or delivery, use, end of life treatment and final disposition** of products and services

**Two significant components:**

■ **8.1 Operational Planning & Control:**

“Organization must establish, implement, control and maintain processes needed to meet EMS requirements and implement actions identified in clauses:

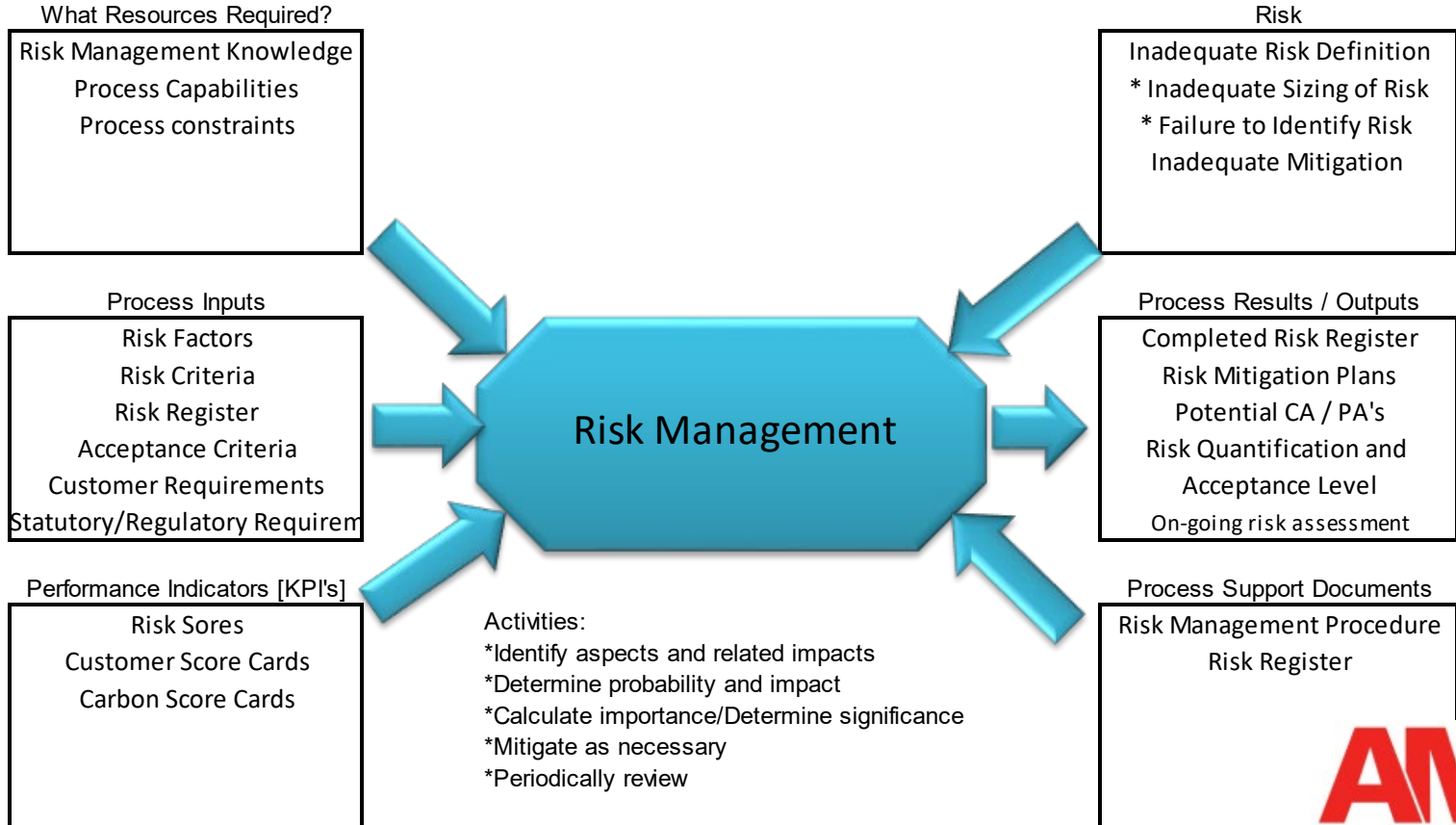
- 6.1 – Actions to address risks and opportunities
- 6.2 – Environmental objectives and planning to achieve them

■ **8.2 Emergency preparedness:**

“Organization shall establish, implement and maintain processes to prepare for and respond to potential emergency situations”



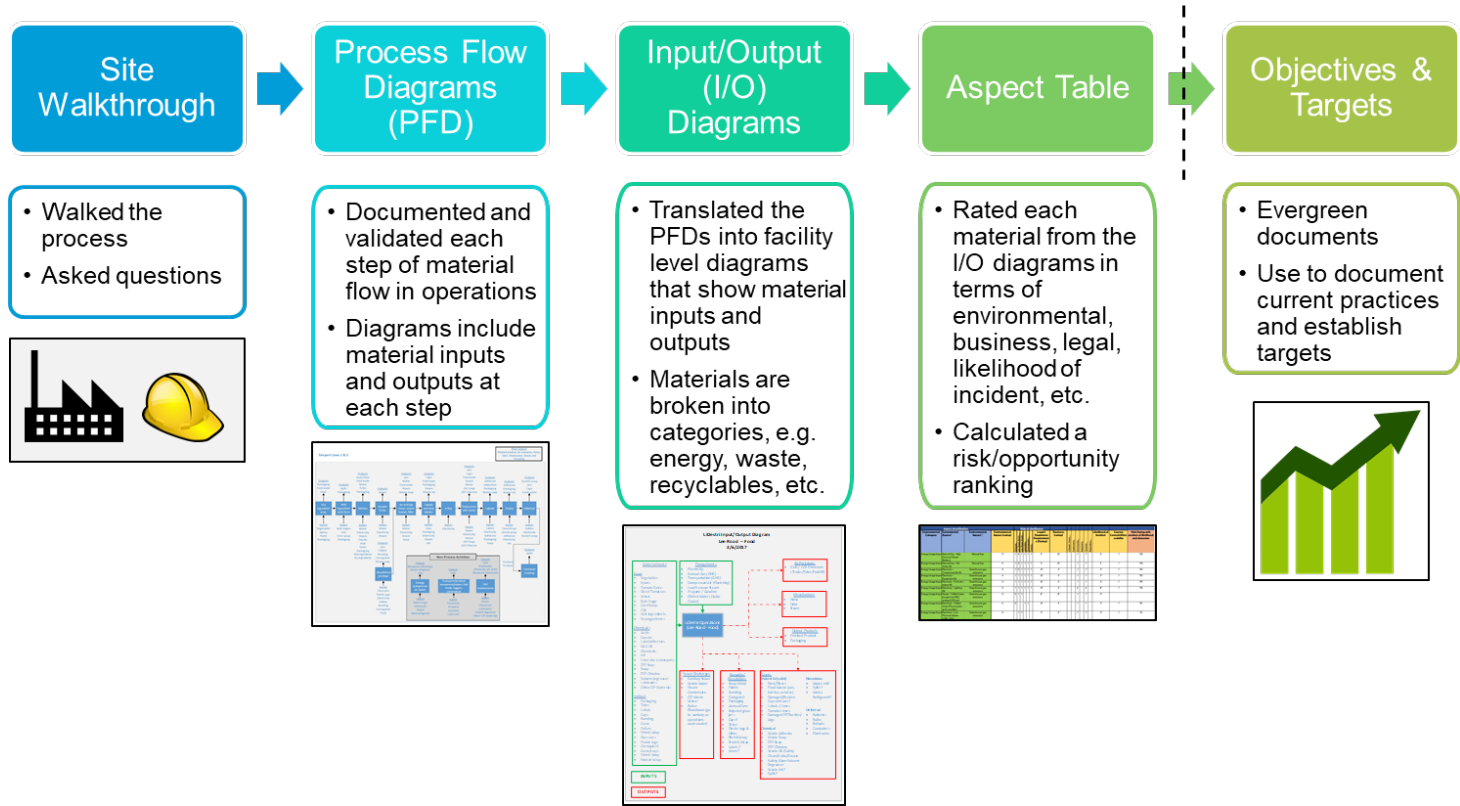
- **Any condition – whether internally or externally initiated – that can produce negative and unexpected results that threaten successful business process operation.**
- **Unaddressed environmental risks can result in**
  - Unexpected emergencies
  - Harm to facilities, workforce, environment
  - Damage to product
  - Violation of compliance obligations
  - Loss of stakeholder confidence



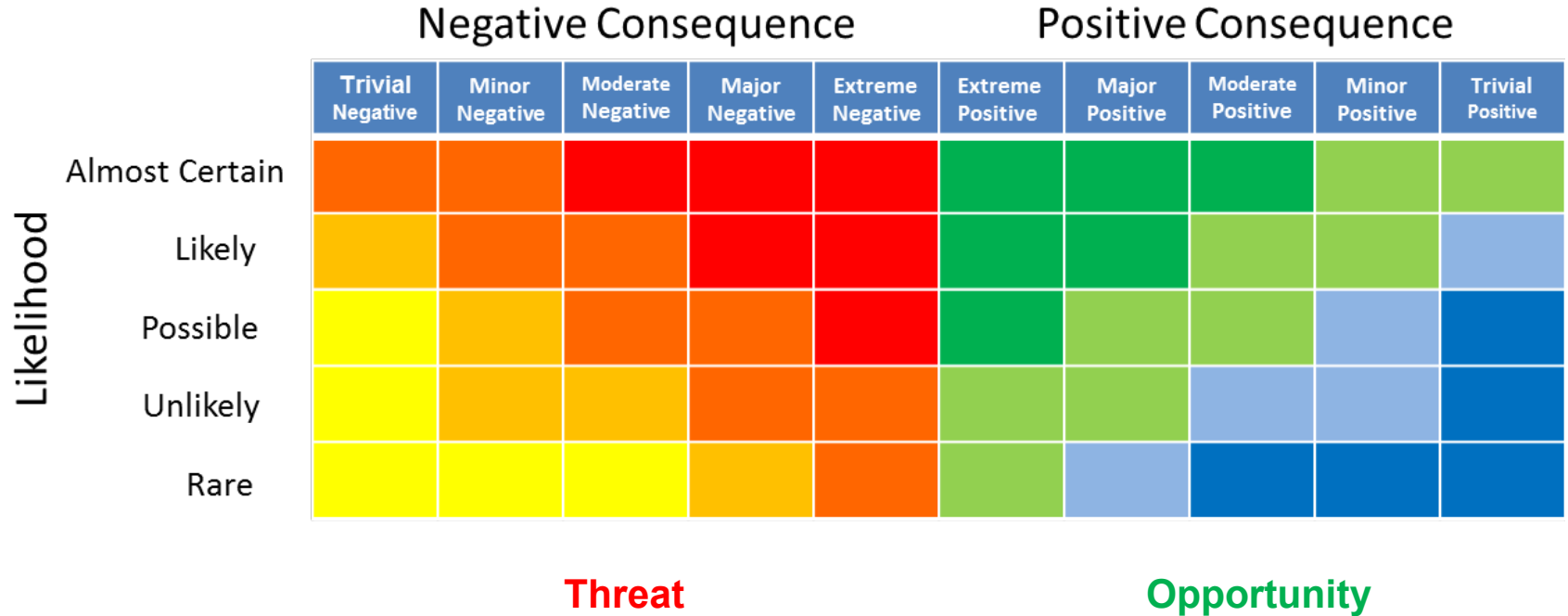
- To define an appropriate process for addressing and controlling risk
  - Assigning ownership [Risk Manager / Facilities Manager / ISO14001 Coordinator]
  - Analyzing incoming process requirements
  - Minimizing conditions that will interfere with project / process success
  - Think risk avoidance / prevention as opposed to detection / remediation.
  - Documenting results of initial risk analysis [Risk Register]
  - Implement risk management methods
  - Monitoring risk as project / process moves forward [Update Risk Register]

- Step #1: Planning for Risk
- Step #2: Identification of Specific Risks
- Step #3: Risk Ranking
- Step #4: Risk Probability
- Step #5: Risk Detectability
- Step #6: Risk Significance
- Step #7: Mitigate as Appropriate

- **Step #1: Planning for Risk - Sizing Criteria**
  - Risk Manager / Process Owners determine valuation criteria for risk factors
  - Establish a range of risk importance values [“tags” that will categorize risks]
    - Significant
    - Acceptable
  
- **Step #2: Identification of Specific Risks - Conduct On-site Assessment**
  - Walk the process
  - Ask Questions
  - Document and validate each step of material flow in operations
  - Diagram – include material inputs and outputs at each step
  - Translate the PFDs into facility level diagrams that show material inputs and outputs
  - Materials are broken into categories
  - Rate each material from the I/O diagrams
  - Calculate risk/opportunity rating
  - Document current practices and establish targets.



- **Step #3: Risk Ranking of Each Environmental Aspect from the Aspect Register Chart with a value from the Risk Criteria Matrix**
  - Legal Consequences
  - Environmental Consequences
  - Business Consequences
  - Interested Parties
  
- **Step #4: Risk Probability of Occurrence**
  - Determine the probability [likelihood] of occurrence
  - Assign appropriate probability values to each risk identified in Step #2
    - 1 Almost Impossible
    - 5 Unlikely
    - 10 Probable
    - 15 Likely
    - 20 Certain





## ■ Step #5 : Risk Detectability of Occurrence

- Determine the level of detection for each occurrence
- Assign appropriate Detectability values to each risk
  - 1 Certain
  - 5 Likely
  - 10 Probable
  - 15 Unlikely
  - 20 Almost impossible

## Step #6: Risk Significance

- Calculate and Assess

Risk Significance = sum of all matrix ratings

- Environmental +
- Legal +
- Business +
- Company +
- Customers +
- Community +
- Suppliers +
- Regulatory +
- Likelihood +
- Detectability +

- Calculate and Assess

Significance Rating = sum with multiplier for Likelihood and Detectability

- Environmental +
- Legal +
- Business +
- Company +
- Customers +
- Community +
- Suppliers +
- Regulatory +
- Likelihood +
- Detectability +



Likelihood  
Detectability

# Risk Rating

Score	Legal Consequence	Environmental Consequence	Business Consequence
-20	Local Legal Requirement Breached in Past lifted or removed	permanent large scale positive impact of unknown scale or permanence	Financial Benefit affected nationally
-15	Specific Legal Requirement lifted or removed	Large scale semi-permanent positive impact	Financial Benefit Published in Local media
-10	National Legal Requirement Lifted or Removed	Major positive impact that the site has a indirect influence on	High financial benefit
-5	Possible Legal Action Lifted or removed	Minor positive impact	Moderate financial benefit
0	No legal Requirement	No lasting effect or effect that site cannot influence	No or low cost or disruption
5	Possible Legal Action	Minor effect or transient nature	Moderate Cost
10	National Legal Requirement	Major Effect that the site has a indirect influence on	High Cost
15	Specific Legal Requirement	Large scale semi-permanent	Article Published in Local media
20	Local Legal Requirement Breached in Past	permanent large scale effect of unknown scale or permanence	Business severely affected nationally

Positive Impacts

Negative Impacts

Score	Likelihood of Incident	Current Controls / Detectability
1	Almost impossible	Certain
5	Unlikely	Likely
10	Probable	Probable
15	Likely	Unlikely
20	Certain	Almost Impossible

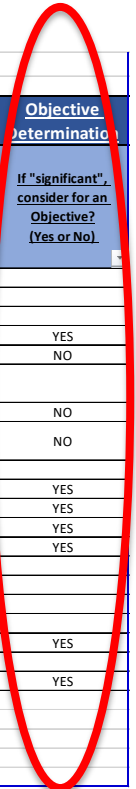
- Risk rating includes both positive and negative impacts for legal, environmental, and business impacts
- After the ratings have been assigned for each environmental impact, the risk rating is calculated

## ■ Step #7: Mitigate as Appropriate

- Determine at what value the occurrence becomes Significant.
- Significance = Significant Environmental Aspect.
- Determine if an Objective should be developed for Significant Environmental Aspects

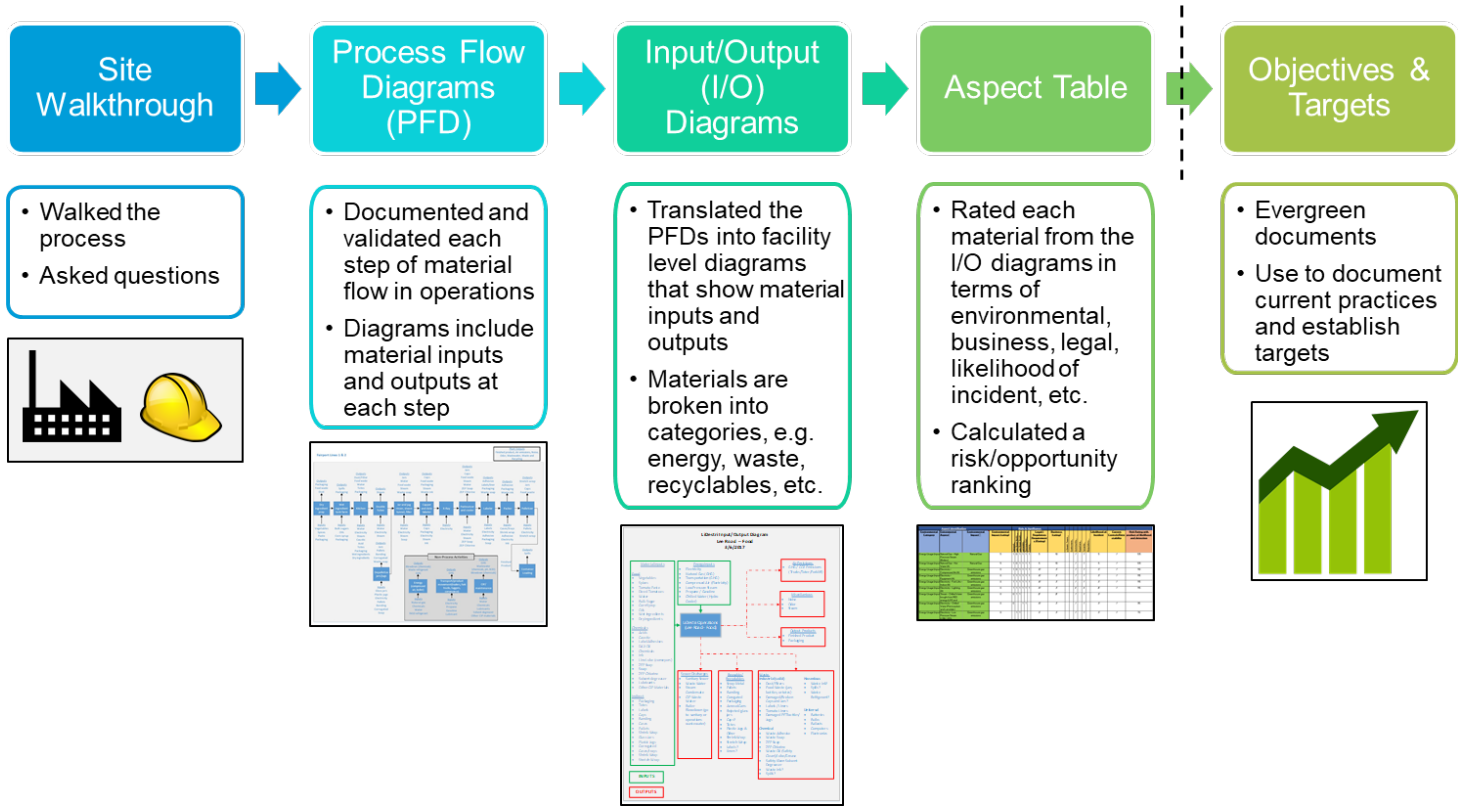
Aspect Register Chart																	
Environmental Aspect*	Environmental Impact**	Baseline FY (201X)	Units	Normalized per unit of product	Environmental Consequence (matrix rating)	Legal Consequence (matrix rating)	Business Consequence (matrix rating)	Company	Customers	Community	Suppliers	Regulatory	Likelihood of Incident (matrix rating)	Current Controls / Detectability (matrix rating)	Risk Rating / Significance Determination (Sum of all matrix ratings)	Risk Rating / Significance Determination (Sum with multiplier for Likelihood and Detectability) (>65)	Objective Determination  If "significant", consider for an Objective? (Yes or No)
Wet Ingredients	Resource Use				5	0	5	1	1	0	1	0	5	1	19	65	
Dry Ingredients	Resource Use				5	0	5	1	1	0	1	0	5	1	19	65	
Raw Materials	Resource Use				5	0	5	1	1	0	1	0	5	1	19	65	
Water Use	Water withdrawal				10	5	20	1	1	1	1	1	5	1	46	200	YES
Raw Materials - Packaging	Resource Use				10	0	5	1	1	0	1	0	5	1	24	90	NO
Compressed Air	Air Quality and Human Health				0	0	10	1	1	0	0	0	5	1	18	60	
Ammonia	Resource Use				5	0	10	1	1	0	1	0	5	1	24	90	NO
Ammonia	Air Quality and Human Health				10	10	15	1	1	1	0	1	5	1	45	195	NO
Cases, pallets, skids	Resource Use				-5	0	5	1	0	0	1	0	5	1	8	10	
Electricity Use	Resource Use				5	0	20	1	1	0	1	0	5	1	34	140	YES
Electricity Use	GHG Emissions				5	0	15	1	1	1	0	0	5	1	29	115	YES
Natural Gas Use	Resource Use				10	0	15	1	1	0	1	0	5	1	34	140	YES
Natural Gas Use	GHG Emissions				15	10	5	1	1	1	0	1	5	1	40	170	YES
Propane	Resource Use				0	0	0	1	0	0	0	0	0	1	2	0	
Propane	GHG Emissions				5	0	0	1	0	0	0	0	0	1	7	0	
Recyclable Materials	Reduced Resource Use				5	0	5	1	1	0	0	0	5	1	18	60	
Noise, Odor, Donations	Community Impact				0	0	0	1	0	1	0	0	0	1	3	0	
Water Discharge to Waterway	Water quality to waterway				5	5	5	1	0	0	0	1	5	1	23	85	YES
Spills	Spills to waterway				0	0	5	1	0	0	0	0	5	1	12	30	
Solid Waste	Waste to landfill				20	0	5	1	1	0	0	0	5	1	33	135	YES

\*Environmental Aspect: element of an organization's activities or products or services that interacts or can interact with the environment  
 An environmental aspect can cause an environmental impact. A "significant" environmental aspect is one that has or can have one or more significant environmental impact(s).  
 Significant environmental aspects are determined by the organization applying one or more criteria.  
 \*\*Environmental Impact: change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects

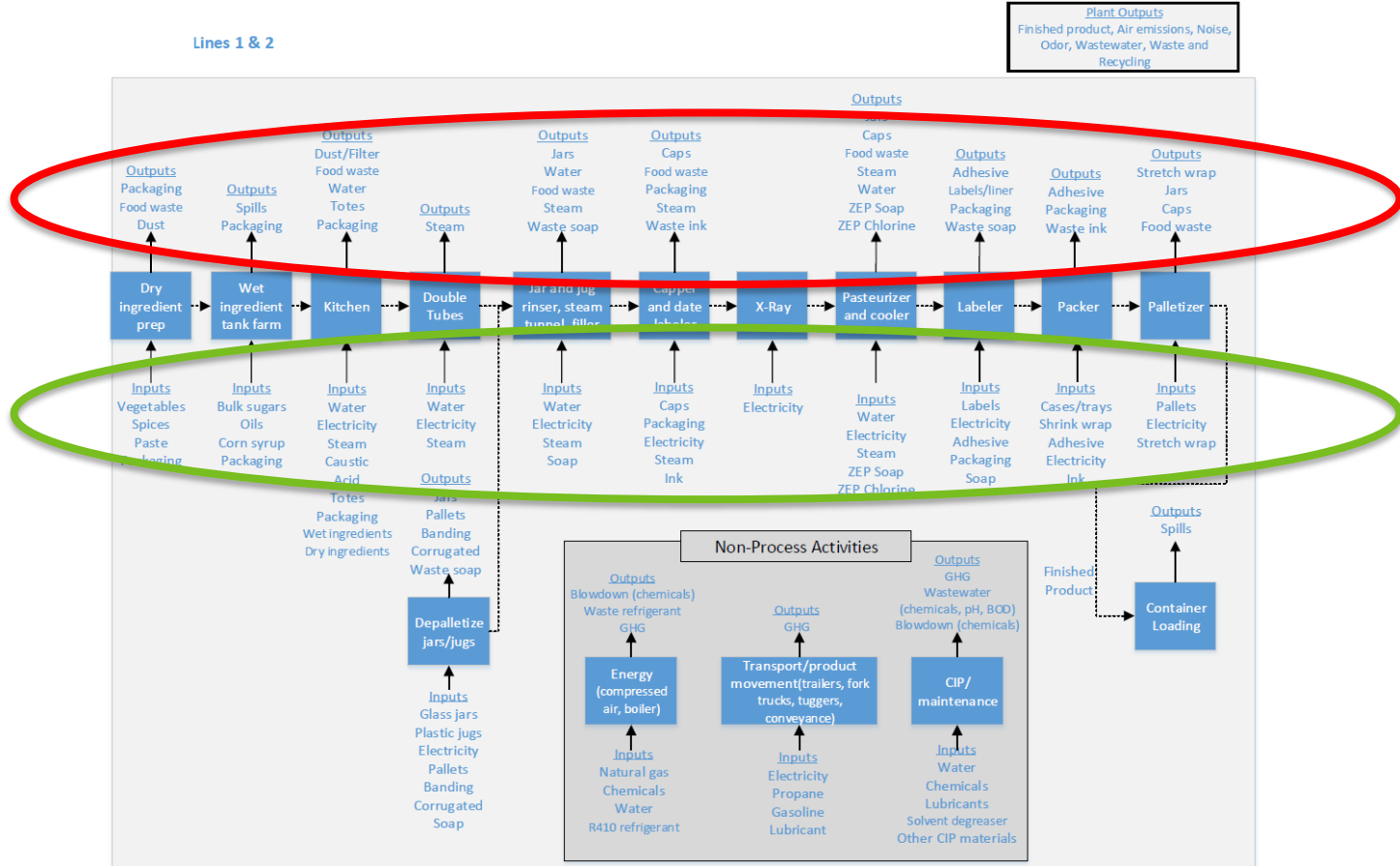


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# Break



# Determine Environmental Aspects

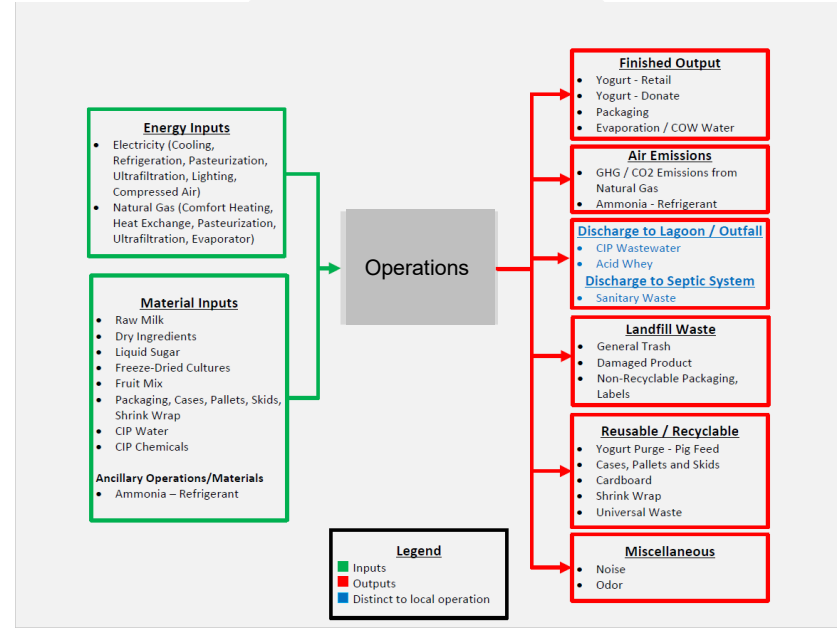
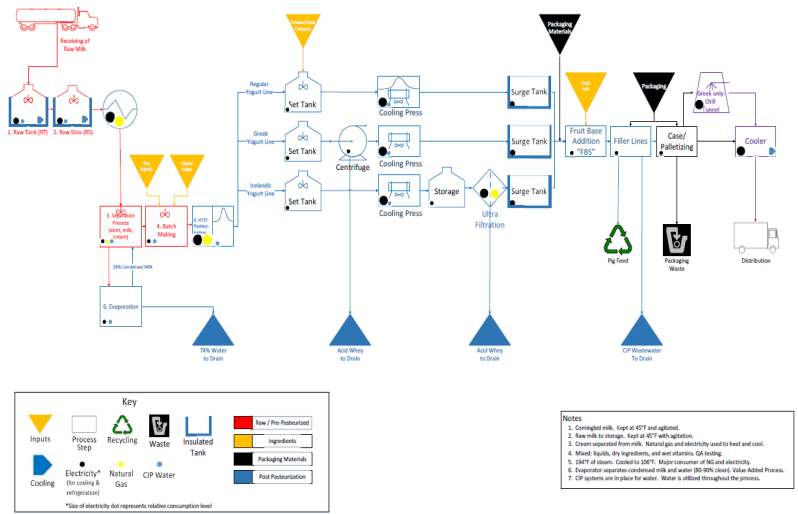


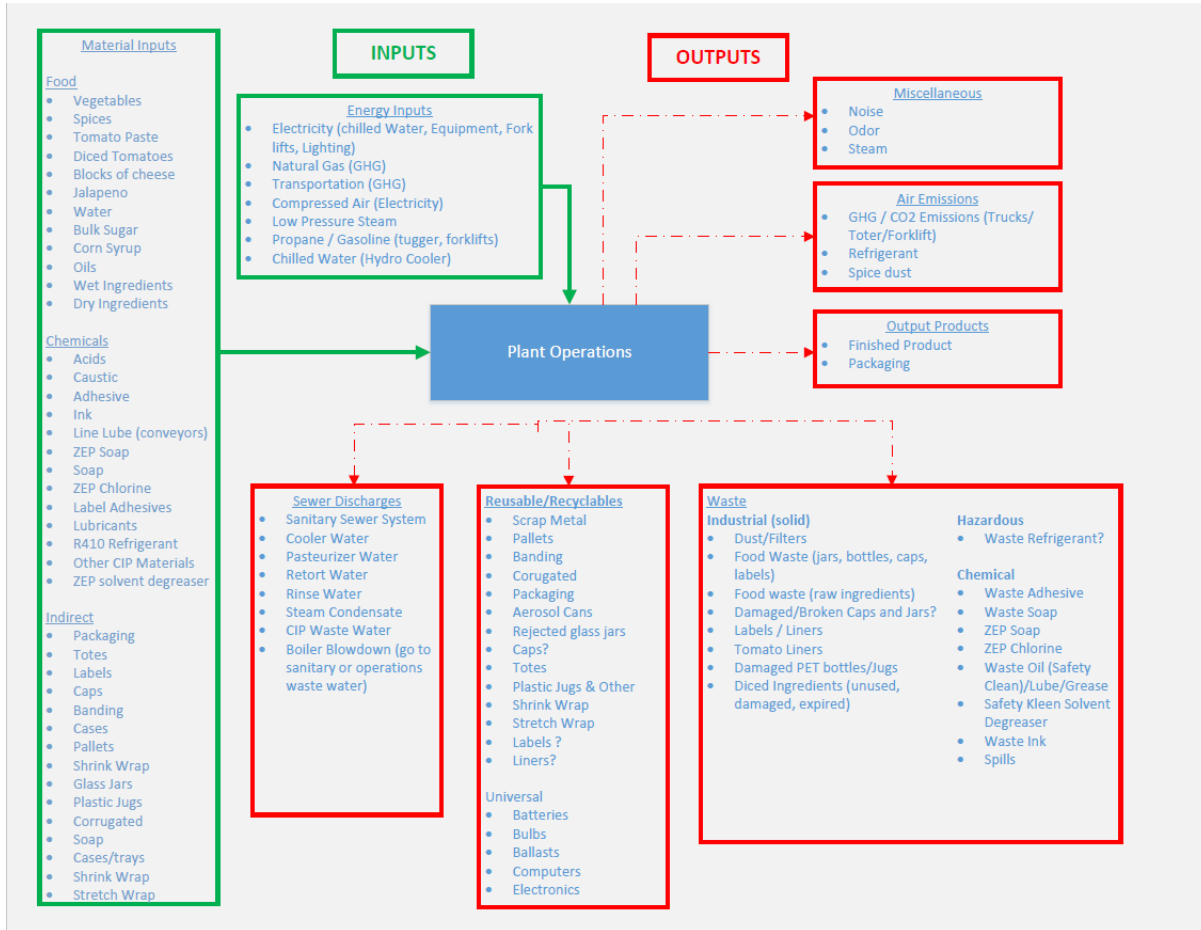


## Process Flow Diagram (PFD)



## Input / Output Diagram (I/O)





## Aspect & Impact Identification

- Identify Aspects (e.g. Water Use from CIP)
- Determine Environmental Impact (e.g. Water Withdrawal)

## Significance Determination

- Environmental Consequence
- Business Consequence
- Legal / regulatory requirement
- Interested Party (Community, Customer, Internal)

## Risk Rating and Targets

- Calculate Risk (threats & opportunities) Rating
- Develop Objectives
- Establish Targets

# Risk Rating

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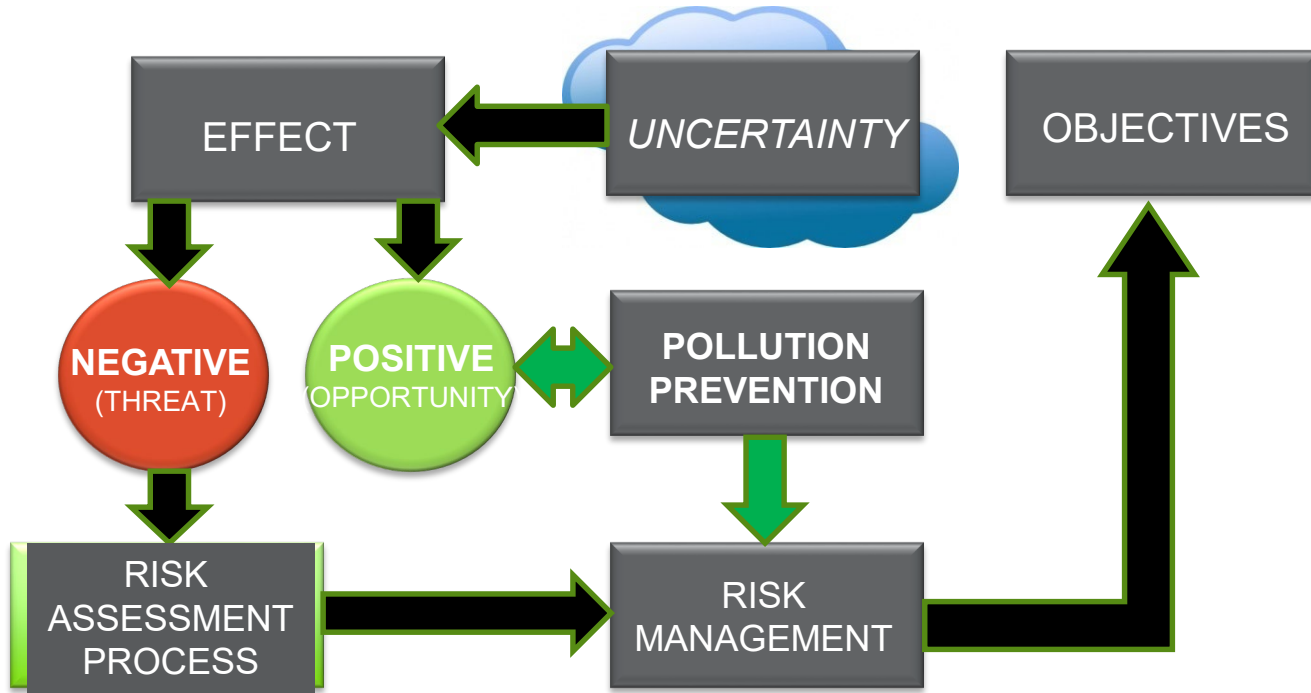
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Electricity Use	Resource Use				5	0	20	1	1	0	1	0	5	1	34	140	YES
Electricity Use	GHG Emissions				5	0	15	1	1	1	0	0	5	1	29	115	YES
Natural Gas Use	Resource Use				10	0	15	1	1	0	1	0	5	1	34	140	YES
Natural Gas Use	GHG Emissions				15	10	5	1	1	1	0	1	5	1	40	170	YES
Propane	Resource Use				0	0	0	1	0	0	0	0	0	1	2	0	
Propane	GHG Emissions				5	0	0	1	0	0	0	0	0	1	7	0	
Recyclable Materials	Reduced Resource Use				5	0	5	1	1	0	0	0	5	1	18	60	
Noise, Odor, Donations	Community Impact				0	0	0	1	0	1	0	0	0	1	3	0	
Water Discharge to Waterway	Water quality to waterway				5	5	5	1	0	0	0	1	5	1	23	85	YES
Spills	Spills to waterway				0	0	5	1	0	0	0	0	5	1	12	30	
Solid Waste	Waste to landfill				20	0	5	1	1	0	0	0	5	1	33	135	YES

\*Environmental Aspect: element of an organization's activities or products or services that interacts or can interact with the environment  
 An environmental aspect can cause an environmental impact. A "significant" environmental aspect is one that has or can have one or more significant environmental impact(s).  
 Significant environmental aspects are determined by the organization applying one or more criteria.  
 \*\*Environmental Impact: change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects

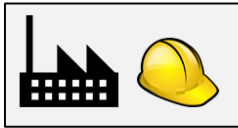
- “Significant” is the weighted Risk Rating of >65

<u>Environmental Aspect*</u>	<u>Environmental Impact**</u>	<u>Risk Rating / Significance Determination</u> (Sum of all matrix ratings)	<u>Risk Rating / Significance Determination</u> (Sum with multiplier for Likelihood and Detectability) (>65)	<u>Objective Determination</u>  <u>If "significant", consider for an Objective?</u> (Yes or No)
Wet Ingredients	Resource Use	19	65	
Dry Ingredients	Resource Use	19	65	
Raw Materials	Resource Use	19	65	
Water Use	Water withdrawal	46	200	YES
Raw Materials - Packaging	Resource Use	24	90	NO
Compressed Air	Air Quality and Human Health	18	60	
Ammonia	Resource Use	24	90	NO
Ammonia	Air Quality and Human Health	45	195	NO
Cases, pallets, skids	Resource Use	8	10	
Electricity Use	Resource Use	34	140	YES
Electricity Use	GHG Emissions	29	115	YES
Natural Gas Use	Resource Use	34	140	YES
Natural Gas Use	GHG Emissions	40	170	YES
Propane	Resource Use	2	0	
Propane	GHG Emissions	7	0	
Recyclable Materials	Reduced Resource Use	18	60	
Noise, Odor, Donations	Community Impact	3	0	
Water Discharge to Waterway	Water quality to waterway	23	85	YES
Spills	Spills to waterway	12	30	
Solid Waste	Waste to landfill	33	135	YES



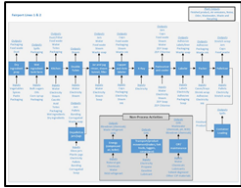
Site Walkthrough

- Walked the process
- Asked questions



Process Flow Diagrams (PFD)

- Documented and validated each step of material flow in operations
- Diagrams include material inputs and outputs at each step



Input/Output (I/O) Diagrams

- Translated the PFDs into facility level diagrams that show material inputs and outputs
- Materials are broken into categories, e.g. energy, waste, recyclables, etc.



Aspect Table

- Rated each material from the I/O diagrams in terms of environmental, business, legal, likelihood of incident, etc.
- Calculated a risk/opportunity ranking

Material	Environmental	Business	Legal	Likelihood of Incident	Risk/Opportunity Ranking
Energy	Low	High	Low	Low	High
Waste	High	Low	High	High	High
Recyclables	Low	Low	Low	Low	Low

Objectives & Targets

- Evergreen documents
- Use to document current practices and establish targets





## Examples of environmental **objectives**:

- Minimize raw material use.
- Minimize releases of air contaminants to the environment.
- Use recycled products where feasible.
- Stop purchasing chemicals that contain carcinogens.

## Examples of environmental **targets**:

- Reduce sanitary waste from routine operations by 25 percent by 2025, using a 2015 baseline.
- Recycle 45 percent of solid wastes from all operations by 2020 and 50 percent by 2025.
- Reduce fleet petroleum consumption by 20 percent by 2022, using a 2018 baseline.

<https://ehsdailyadvisor.blr.com/2012/09/setting-environmental-objectives-and-targets-for-iso-14001-compliance/>

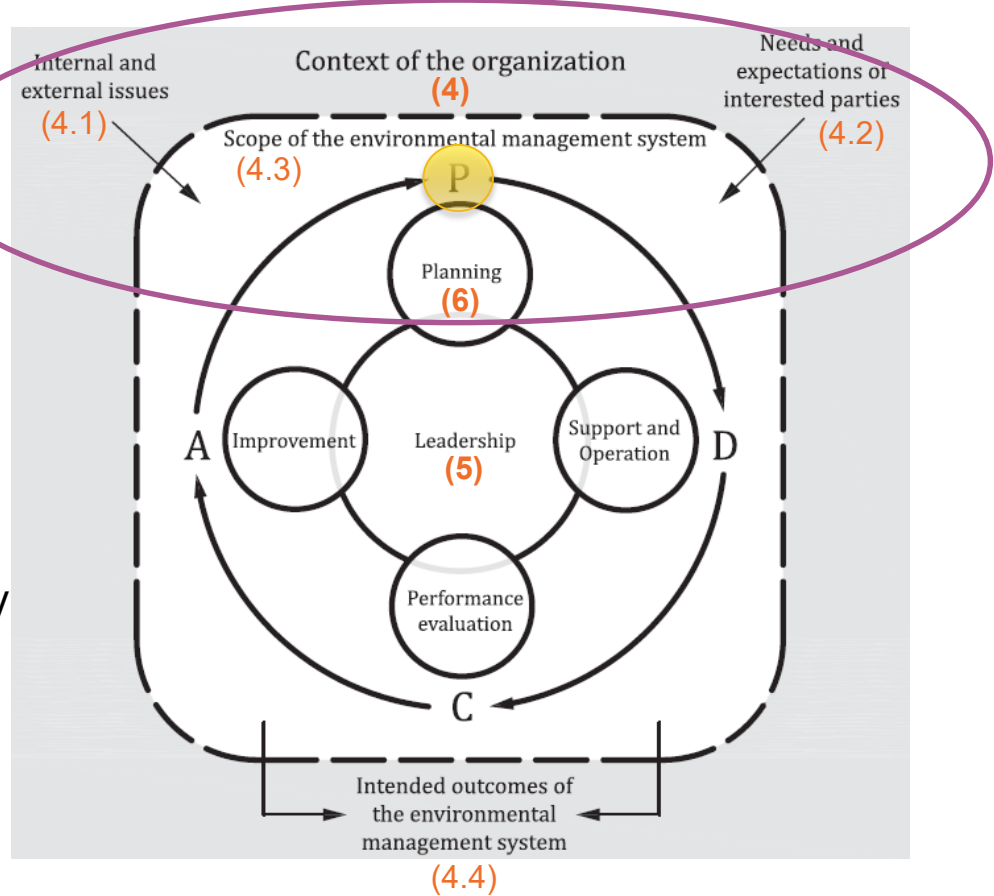
<u>Objectives</u>	<u>Targets</u>	<u>Involved Parties</u>
Reduce water consumption.	<ul style="list-style-type: none"> <li>• Set water use baseline by 12/1/2012.</li> <li>• Benchmark each plant by 3/1/2013.</li> <li>• Put program in place by 7/1/2013.</li> </ul>	<ul style="list-style-type: none"> <li>• Production and maintenance staff</li> <li>• Engineering department</li> <li>• Accounting department</li> </ul>
Reduce chemical spills.	<ul style="list-style-type: none"> <li>• Train all employees by 9/1/2012.</li> <li>• Reduce number of spills 50% (vs 2010) by 1/1/2013.</li> </ul>	<ul style="list-style-type: none"> <li>• Production and maintenance</li> <li>• Shipping and receiving</li> <li>• Environmental training group</li> </ul>
Stop buying chemicals that contain carcinogens.	<ul style="list-style-type: none"> <li>• Evaluate alternatives by 1/1/2013.</li> <li>• Set purchase policy by 3/1/2013.</li> </ul>	<ul style="list-style-type: none"> <li>• Product development group</li> <li>• Purchasing department</li> </ul>
Improve employee awareness.	<ul style="list-style-type: none"> <li>• Train 100% employees within a year.</li> </ul>	<ul style="list-style-type: none"> <li>• All staff</li> </ul>

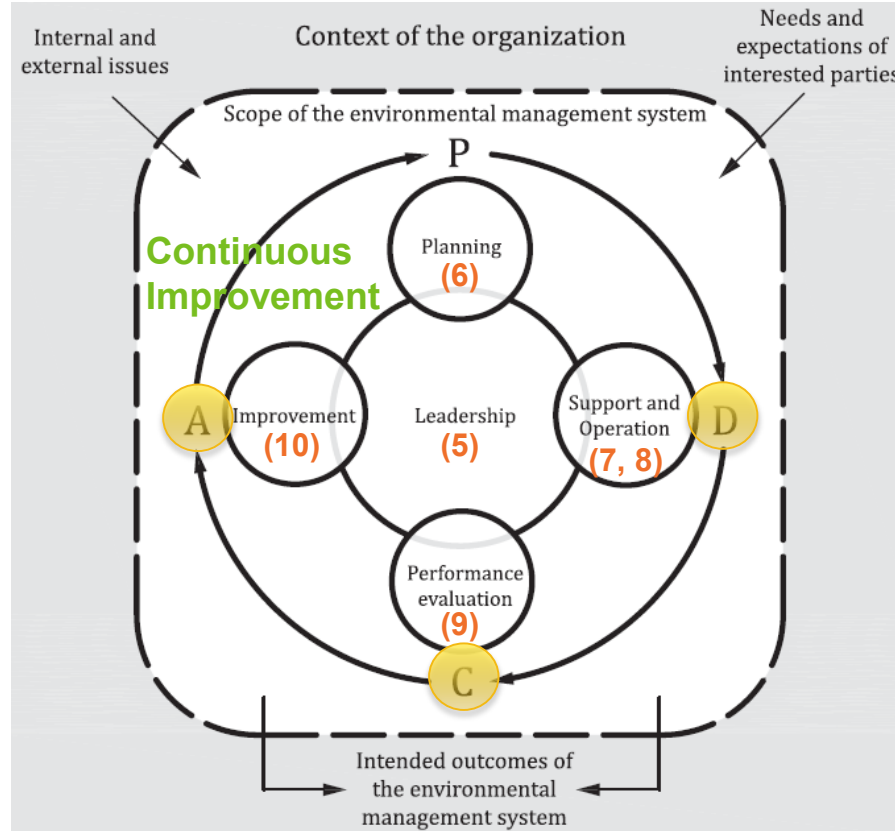
- (5) Leadership**
- Commitment
  - Environmental Policy

**Actions to Address Risks & Opportunities**

**(P)(6) Planning**

- ✓ Context of the Organization
- ✓ Environmental Aspects (& Emergency Situations)
- ✓ **Significant** Environmental Aspects
- (Compliance Obligations)
- ✓ Objectives





- ✓ Learn about the **business impacts and benefits** of an ISO 14001 Environmental Management System
- ✓ Learn about the **elements** of ISO 14001 related to **risk**
- ✓ Understand how to establish a **risk rating** and determine ISO 14001 "Significant Environmental Aspects"
- ✓ Discuss setting objectives for ISO 14001 to reduce environmental risk



- 1. Initial walkthrough assessment by NYSP2I and AM&T**
- 2. Develop scope to incorporate ISO 14001 in your workplace**
- 3. Develop PFD and I/O Diagrams**
- 4. Assist with Completing Risk Matrix**
- 5. Conduct EMS Gap Assessment**

# Thank You

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