Environmental Management Systems (EMS)

What is an EMS?

- A system of managing environmental risk within daily organizational activities
- An EMS is a tool for managing the impacts of an organization's activities on the environment. It provides a structured approach to planning and implementing environment protection measures (ISO 14001:2015).
- EMS focuses on practices which help companies assess the level of their efficiency in meeting their environmental responsibilities
- It motivates companies to 'go beyond compliance'.

What is an EMS?

- An Environmental Management System (EMS) is
  - A tool to improve environmental performance
  - A systematic way of managing an organization's environmental aspects
  - Based on the Plan-Do-Check-Act (PDCA) model
  - Focused on continual improvement of systems
  - Uses a high-level structure, can be easily integrated into any existing ISO Management System

Example: A textile factory in Bangladesh adopts an **Environmental Management System (EMS)** aligned with **ISO 14001:2015**.

Steps Taken:

- **Policy**: Management commits to reducing environmental impacts.
- **Planning**: Identifies major issues—wastewater discharge, chemical use, and energy consumption.
- **Implementation**:
  - Installs effluent treatment plants (ETPs) to manage wastewater.
  - Switches to eco-friendly dyes and chemicals.
  - Introduces energy-efficient machinery.

Why is EMS?

- Reduce liability and risk -identify potential environmental hazards early

Example: Preventing oil spills or chemical leaks reduces the risk of lawsuits, fines, and reputational damage.

- Facilitate better business processes-improves efficiency.

Example: Standardized waste management procedures reduce confusion and improve workflow.

- Minimize waste and energy bills-promotes resource efficiency

Example: Installing energy-efficient lighting cuts utility costs while reducing carbon footprint.

- Enhance company reputation- environmental responsibility builds trust with customers, investors, and regulators.

Example: Companies with ISO 14001 certification are seen as more credible and sustainable.

- Improve compliance-ensures adherence to environmental laws and regulations

Example: Regular monitoring prevents violations of air or water quality standards

- Meet interested parties concerned
- Improve marketing potential -“Green” credentials can be used in branding and marketing.

Example: Airlines promoting reduced carbon emissions attract eco-conscious travelers.

What does an EMS Do?

- Establishes the EMS Policy, Objectives and Targets- Provides a structured roadmap for sustainability
- Prevents problems rather than fixing them later-emphasizes proactive management

Example: Monitoring emissions prevents regulatory violations instead of paying fines afterward.

- Provides evidence of compliance

Example: ISO 14001 certification demonstrates compliance globally.

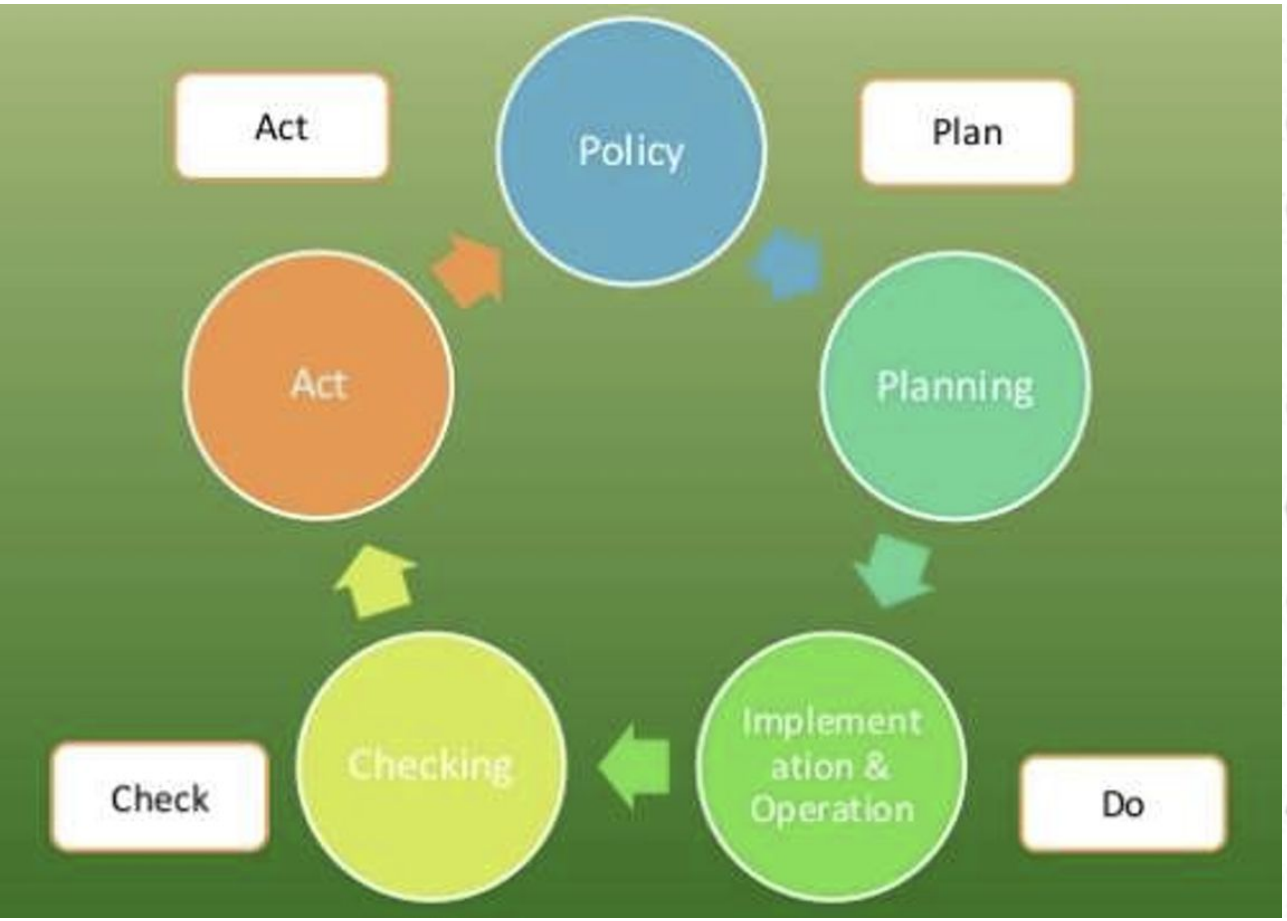
- Makes effort for continual improvement

Example: A company may start with reducing water use, then move to renewable energy adoption.

Core Elements of EMS

- Environmental policy
- Environmental action plan (objectives, targets, legal requirements
- Environmental related organizational structures
- Implementation & Operation
- Monitoring & Measurement
- Review & Continuous Improvement
- Integration of environmental concerns

Frameworks of EMS



Plan: establish the objectives and processes necessary to deliver results in accordance with the organisation's environmental policy.

Do: implement the processes and manage the environmental aspects.

Check: monitor and measure processes against environmental policy, objectives, targets, legal and other requirements, conduct audits and report the results.

Act: review EMS and take actions to continually improve performance of the environmental management system

EMS Model


Management Review
Environmental Policy
Planning
• Environmental Aspects
• Compliance
• Objectives and Targets
• Environmental Mgmt. Programs
Implementation
• Roles and Responsibilities
• Training and Communication
• EMS Document Control
• Emergency Preparedness and Response
Checking/ Corrective Actions
• Measurement and Monitoring
• EMS Nonconformance and Corrective Actions
• Records
• EMS Audits
Continuous Improvement

Steps in EMS

- Identify environmental aspects and undertake risk assessment
- Develop an environmental policy
- Set environmental objectives
- Establish environmental key performance indicators
- Plan and develop procedures and systems
- Implement procedures and systems
- Monitor performance
- Undertake continual improvement

Scope of EMS

- A Company's scope of EM does not just include their own activities, but should also consider external and internal issues (suppliers, consumers, investors and the wider public).
- Compliance obligations (identified by stakeholders needs and expectations)
- Organisational units, functions and physical boundaries

Benefits of EMS

- Improved environmental performance
- Enhanced compliance
- Pollution prevention
- Resource conservation
- New customers/markets
- Increased efficiency/reduced cost
- Enhanced employee morale
- Enhanced image with public, regulators, lenders, investors
- Increased awareness of environmental issues and responsibilities

Example of EMS: A Video

https://www.youtube.com/watch?v=5VJmPJ48YKc