

Module 3

Module 3 : Introduction to ISO 14001:2026 Standard Requirements

Training Schedule

01

Morning Session

Lectures and Exercises

02

Morning Break

Comfort breaks and Coffee break

03

Lunch Break

1 pm – 2 pm

Rest and Refreshments

04

Afternoon Session

Lectures and Exercises

05

Afternoon Break

Afternoon Coffee break

06

Session Wrap-Up

End at 5 pm

Closing & Q&A

Today's Outline

01

Introduction to ISO EMS Standards

Foundational overview of Environmental Management System standards and global framework context.

02

Key Features

Core principles, structural benefits, and strategic objectives of modern management systems.

03

Requirements of ISO 14001:2015

In-depth breakdown of mandatory clauses, organizational compliance, and implementation criteria.

MODULE 2

Introduction to ISO Environmental Management System Standards

- Global Framework for Environmental Responsibility & Sustainability
- Standardized Guidelines for System Implementation & Compliance
- Structured Process for Continuous Performance Improvement



ISO Standard Series

International Organization for Standardization

Management system standards

We have a number of management system standards, each focusing on different issues affecting global business. More information can be found by clicking on the following links.



ISO 50001 - Energy management



ISO 14000 family - Environmental management



ISO 9000 family - Quality management



ISO 22000 - Food safety management



ISO/IEC 27001 - Information security management



ISO 20121 - Sustainable events management



ISO 45001 - Occupational health and safety



ISO 37001 - Anti-bribery management systems

Introduction to ISO Environmental Management System Standards

ISO Environmental Management Welcome to ISO/TC 207

OUR MISSION

The mission of the ISO Environmental Management technical committee is to develop International Standards that respond to global environmental challenges and support achievement of a sustainable future.

Our comprehensive suite of standards covers a wide range of environmental management aspects, including but not limited to:


Environmental Management
System (EMS)


Environmental Auditing


Green Finance


Environmental Labelling


Life Cycle Assessment (LCA)


Climate Change Mitigation
and Adaptation

Development of ISO Environmental Management Strategic Business Plan 2027- 2030

The ISO Environmental Management Technical Committee (ISO/TC 207) is beginning the development of its next Strategic Business Plan, which will establish the committee's strategic direction and priorities for the coming years.

To ensure the Strategic Business Plan reflects the evolving needs of organizations, governments, industry, regulators, academia, civil society and standards users around the world, ISO/TC 207 is undertaking a global consultation process during **August and September 2026**.

Your voice matters!

There are two ways for you to contribute to the development of the Strategic Business Plan 2027-2030. First, complete our consultation survey and share your thoughts on what our challenges are and what our priorities need to be over the coming years. Second, participate in focus group sessions that will be held in English, French, Russian, Spanish, and Arabic. Complete the survey and register for the focus group sessions below. Meeting invites will be sent to participants one week before each session.

COMPLETE SURVEY AND REGISTER

Introduction to ISO Environmental Management System Standards

ISO 14001 - Environmental management systems – Requirements with guidance for use

ISO 14002-1 - Environmental management systems - Guidelines for applying the ISO 14001 framework to environmental aspects and environmental conditions by environmental topic areas

ISO 14002-2 - Environmental management systems — Guidelines for using ISO 14001 to address environmental aspects and conditions within an environmental topic area — Part 2: Water

ISO 14004 - Environmental management systems – General guidelines on principles, systems and support techniques

ISO 14005 - Environmental management systems – Guidelines for a flexible approach to phased implementation

ISO 14006 - Environmental management systems – Guidelines for incorporating ecodesign

ISO 14007 - Environmental management - Determining Environmental Costs and Benefits — Guidance

ISO 14008 - Monetary valuation of environmental impacts from specific emissions and use of natural resources

ISO 14009 - Guidelines for incorporating redesign of products and components to improve material circulation

Introduction to ISO Environmental Management System Standards

The historical development and transition timeline for **ISO 14001:2026** spans from the formal review initiation to the mandatory three-year compliance deadline.

Revision and Publication Milestones

Autumn 2023

Formal review and initiation of the **ISO 14001:2015** revision process begins.

June 2025

The Draft International Standard (**DIS**) is published for review and comment.

January 5, 2026

The Final Draft International Standard (**FDIS**) is published, marking the final formal step before release.

April 15, 2026

ISO 14001:2026 is officially published by the [International Organization for Standardization](#) (ISO), replacing the 2015 edition and initiating the transition period.

Transition and Audit Timeline

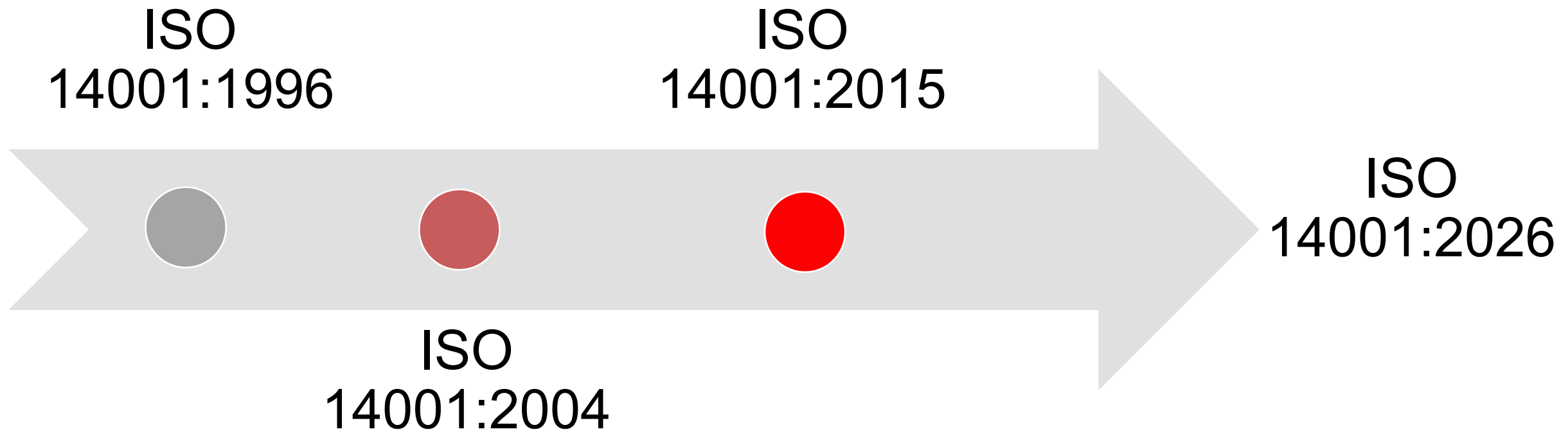
Mid-2026 to Early 2027

Transition audits become widely available, and certification bodies begin incorporating the 2026 requirements into new recertification audits.

April 30, 2029

The mandatory 3-year transition deadline is reached; all legacy **ISO 14001:2015** certificates expire and become invalid.

Introduction to ISO Environmental Management System Standards



Introduction to ISO Environmental Management System Standards

ISO 14001 — Environmental management systems — Requirements with guidance for use

EMS Requirements & Performance

Specifies **requirements** for an **environmental management system (EMS)** that an organisation can use to **enhance its environmental performance**.

Systematic Sustainability Pillar

Intended for use by an organisation seeking to manage its environmental responsibilities in a **systematic manner** that directly contributes to the **environmental pillar of sustainability**.

Universal Applicability

Applicable to **any organisation**, regardless of its **size, type, or nature**, offering flexible adoption across all sector domains.

Performance Flexibility

Does not state specific environmental performance criteria, enabling organisations to tailor quantitative goals to their context.

Introduction to ISO Environmental Management System Standards

Foundation Concept

Management System

Set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives.

Core Deliverables:

- **Organizational Policies:** Clear direction and governance
- **Target Objectives:** Measurable goals and outcomes
- **Structured Processes:** Repeatable operational workflows

Specialized Framework

Environmental Management System

Part of the management system used to manage environmental aspects, fulfil compliance obligations, and address risks and opportunities.

1. Manage Environmental Aspects

Controls operational impacts on the natural environment.

2. Fulfil Compliance Obligations

Meets legal, regulatory, and stakeholder requirements.

3. Address Risks & Opportunities

Proactively manages potential threats and leverages enhancements.

Content of ISO 14001:2015

Foundational Clauses

Foreword & Introduction

1 Scope

2 Normative references

3 Terms and definitions

- 3.1 Terms related to organization and leadership
- 3.2 Terms related to planning
- 3.3 Terms related to support and operation
- 3.4 Terms related to performance evaluation and improvement

4 Context of the organization

- 4.1 Understanding the organization and its context
- 4.2 Understanding needs & expectations of interested parties
- 4.3 Determining the scope of the EMS
- 4.4 Environmental management system

Leadership & Operations

5 Leadership

- 5.1 Leadership and commitment
- 5.2 Environmental policy
- 5.3 Roles, responsibilities and authorities

6 Planning

- 6.1 Actions to address risks and opportunities
- 6.2 Environmental objectives and planning to achieve them
- 6.3 Planning of changes

7 Support

- 7.1 Resources
- 7.2 Competence
- 7.3 Awareness
- 7.4 Communication
- 7.5 Documented information

Execution & Improvement

8 Operation

- 8.1 Operational planning and control
- 8.2 Emergency preparedness and response

9 Performance evaluation

- 9.1 Monitoring, measurement, analysis and evaluation
- 9.2 Internal audit
- 9.3 Management review

10 Improvement

- 10.1 Continual improvement

Key Features of ISO 14001:2026 Environmental Management System



Key Features of ISO 14001:2026

01

Indirect pathway towards sustainability and the opportunity to look at environmental impacts in the supply chain

02

Encourages organisations to look at how the external environment can affect business

03

Strengthens links between the organisation's strategy and its EMS

04

Provides improved linkage between environmental performance and business planning processes

05

Provides a framework which facilitates external reporting

Intended Outcomes of the EMS

enhancing environmental performance



Performance related to the management of environmental aspects

meeting compliance obligations



Legal requirements that an organization has to comply with and other requirements that an organization has to, or chooses to comply with

achieving environmental objectives



Objective set by the organization consistent with its environmental policy



Key Features of ISO 14001:2026

Other Features Overview



Scope

Establishes boundaries and applicability of the Environmental Management System (EMS) tailored to organizational context.



Sustainability

Provides an indirect pathway towards long-term environmental sustainability and supply chain accountability.



Protection of Environment

Proactive focus on pollution prevention, sustainable resource usage, and climate change mitigation.



Intended Outcomes

- Enhancement of environmental performance
- Fulfilment of compliance obligations
- Achievement of environmental objectives



Management of Change

Structured approach ensuring operational modifications do not adversely impact environmental performance.



Terms & Definitions

Clarified terminology to ensure consistent understanding and standardized application across operations.

Fundamental Principles of Environmental Management

Environmental management relies on core guiding principles that balance human activity with ecological preservation and sustainable development.



Polluter Pays

Those who create pollution must pay for the costs of cleaning it up or managing its environmental impact.



User Pays

People or businesses who use natural resources must pay the full cost of those resources and related services.



Precautionary

Action should be taken to prevent environmental harm even if scientific proof or certainty is not yet complete.



Effectiveness & Efficiency

Environmental goals should be met at the lowest possible cost by using smart incentives and clear rules.



Responsibility (Stewardship)

Humans have a duty to protect and maintain vital ecological processes and natural resources for future use.



Public Participation

Communities and stakeholders must be included in open decision-making processes to ensure fair and transparent outcomes.



Proportionality

Policies must balance economic development and growth with proper environmental protection.

Aim of an Environmental Management System



CORE PURPOSE & FRAMEWORK

ISO 14001 provides organizations with a framework to protect the environment and respond to changing environmental conditions in balance with socio-economic needs.



Business Resilience & Scrutiny

Environmental performance is increasingly tied to core business resilience. Climate volatility, supply chain disruption, and regulatory pressure are creating new layers of risk.

At the same time, stakeholder scrutiny is intensifying. Stakeholders are no longer satisfied with policies or intentions—they expect measurable outcomes, backed by credible data.



ISO 14001:2026 Strategic Role

Performance Tool: Strengthens environmental management as a strategic tool for operational performance, rather than basic compliance.

Core Decision Integration: Helps organizations assess exposure, prioritize action, and integrate environmental considerations into core decisions—from operations to investment.

Decision Quality: Focuses on improving how decisions are made in a rapidly changing world without adding unnecessary complexity.

Benefits of Environmental Management System

Key Organisational Benefits of ISO 14001 Implementation



Cost Reduction & Efficiency

Lowers outgoings on electricity, fuel, and raw materials while minimizing waste disposal fees through optimized resource use.



Regulatory Compliance

Streamlines tracking of local and national environmental laws, decreasing the likelihood of costly fines, permit violations, and legal liability.



Reputation & Advantage

Boosts corporate image and stakeholder trust, satisfying ESG investor criteria and often unlocking tenders that require formal ISO 14001 certification.



Risk Management

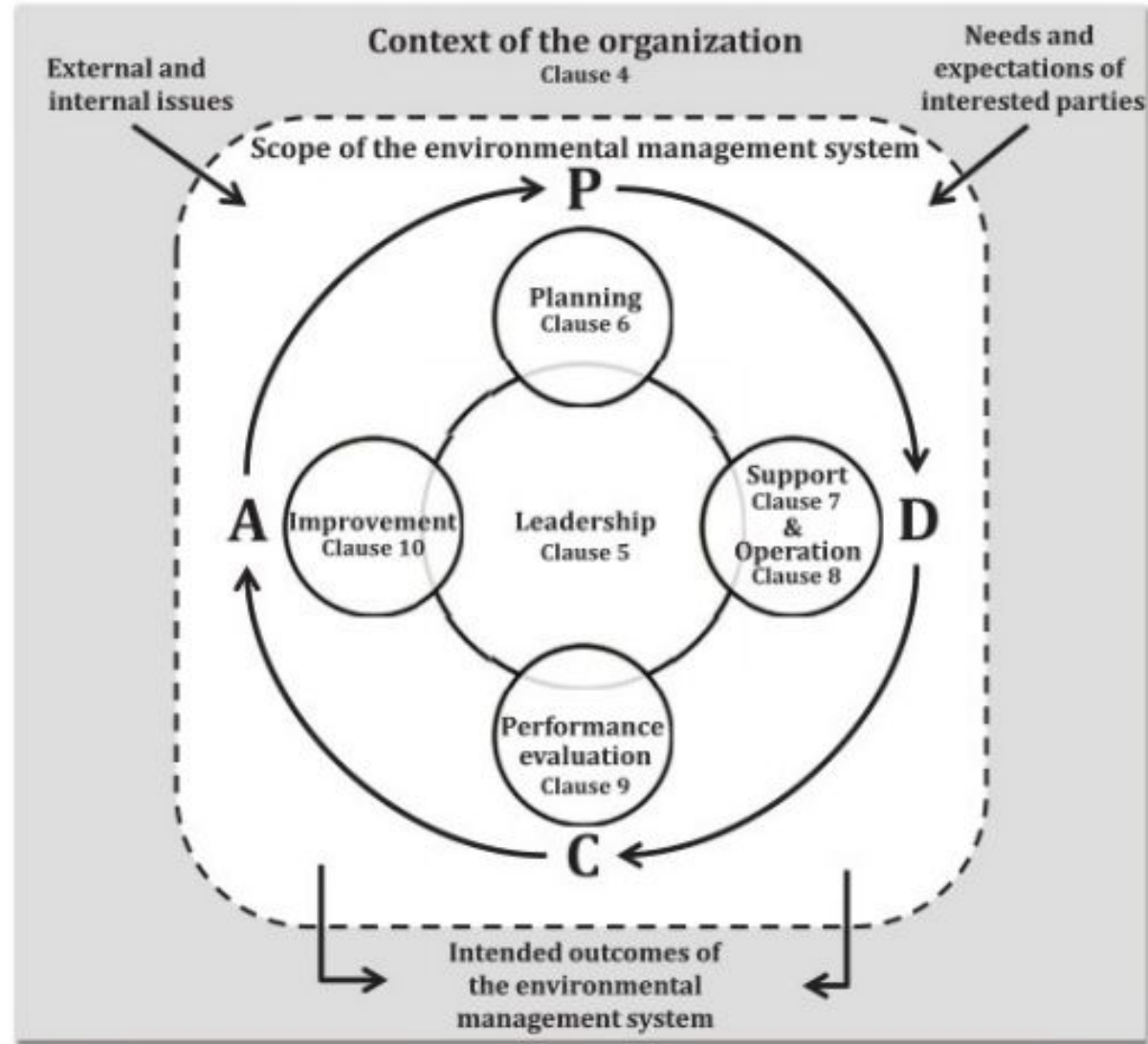
Identifies environmental aspects and operational hazards early via the Plan-Do-Check-Act (PDCA) cycle, improving overall business resilience against market and climate shocks.



Employee Engagement

Fosters a shared organizational culture of environmental responsibility, which can improve staff morale and retention.

Key Features of ISO 14001:2026



Corresponding Requirements of ISO 14001:2026, ISO 9001:2026 & ISO 45001

Intended Outcomes (Results)



ISO 14001

- Enhancing environmental performance
- Meeting compliance obligations
- Achieving environmental objectives



ISO 9001

- Demonstrate its ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements
- Aims to enhance customer satisfaction



ISO 45001

- Prevent injury and ill health to workers and provide safe and healthy workplaces
- Continual improvement of OHS performance
- Fulfilment of legal and other requirements
- Achievement of OHS objectives

Examples of Integrated Intended Outcomes (Results):

- Enhancement of QESH performance (workplace health and safety)
- Fulfilment of legal requirements and other requirements
- Achievement of QESH objectives (OHS prevention of injury and ill health and provide a safe and healthy workplace)

Module 4

Module 4 : Understanding and Implementing EMS based on ISO 14001:2026

MODULE 3

Understanding and Implementing Environmental Management based on ISO 14001:2026

- Global Framework for Environmental Responsibility & Sustainability
- Standardized Guidelines for System Implementation & Compliance
- Structured Process for Continuous Performance Improvement



International
Standard

ISO 14001

**Environmental management
systems — Requirements with
guidance for use**

*Systèmes de management environnemental — Exigences et lignes
directrices pour son utilisation*

**Fourth edition
2026-04**

What are the changes in Clause 3?

KEY UPDATE 01

Removal of Standalone "Risk" Definition

In the 2015 edition, "risk" was explicitly defined in Clause 3.2.10. In ISO 14001:2026, the standalone definition is removed, defining **"risks and opportunities"** directly as potential adverse and beneficial effects.

KEY UPDATE 02

Deletion of "Outsource"

The verb "outsource" is deleted. The 2026 standard replaces it with **"externally provided processes, products or services"** or **"outsourced processes"** for alignment with ISO structure.

KEY UPDATE 03

Shift to "Meet" Compliance Obligations

The normative phrasing transitions from *"fulfil compliance obligations"* to **"meet compliance obligations"** throughout standard definitions and clauses.

KEY UPDATE 04

Standardized Documented Information Terms

"shall be available as documented information" replaces "maintain..." (policies/procedures), while **"shall be available as evidence of..."** replaces "retain..." (records).

Clause 3 Terms and Definitions

DEFINITION 01

Environmental Management System

Part of the management system used to manage environmental aspects, fulfil compliance obligations and address risks and opportunities.

DEFINITION 02

Environmental Aspects

Elements of an organisation's activities or products or services that interacts or can interact with the environment.

DEFINITION 03

Environmental Impacts

Change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.

DEFINITION 04

Prevention of Pollution

Use of processes, practices, techniques, materials, products, services or energy to avoid, reduce or control the creation, emissions or discharge of any pollutant or waste.

Clause 3 Terms and Definitions

DEFINITION 05

Policy

intentions and direction of an organisation as formally expressed by its top management

DEFINITION 06

Environmental Policy

policy related to environmental performance

Clause 3 Terms and Definitions

Definition Update in ISO 14001:2026

The term **"outsourced processes"** was removed and replaced with **"externally provided processes, products and services"** in ISO 14001:2026 to expand organizational accountability across the entire value chain and align with ISO 9001.

REASON 01

Broader Scope

The old term "outsourced" allowed companies to draw narrow operational boundaries. The new phrasing covers any external provider or supplier that impacts environmental performance, whether the service is technically outsourced or simply part of the supply chain.

REASON 02

Standard Alignment

Shifting to "externally provided processes, products and services" mirrors terminology used in quality management standards like **ISO 9001**, creating consistency across different management systems.

REASON 03

Value Chain Accountability

It places a clearer emphasis on upstream and downstream impacts (such as design, delivery, and disposal), helping organizations integrate supplier risks and ESG requirements directly into their environmental management systems.

Clause 3 Terms and Definitions

Removal of Standalone "Risk" Definition in ISO 14001:2026

The standalone definition (borrowed from ISO 31000) was removed from Clause 3 to align with the Harmonised Structure (HS) across ISO management standards and streamline terminology.

REASONS

Why the Definition Was Removed

1. Harmonization and Consistency

Managed through the phrase **"risks and opportunities"** and rules applied across standards like ISO 9001.

2. Elimination of Redundancy

The previous definition from ISO 31000 was redundant or overly broad for environmental management.

3. Clarity of Meaning

"Risk" strictly carries a negative connotation (potential adverse effects), while "opportunities" retain positive meaning.

ORGANIZATIONAL OUTCOME

Practical Impact on Organizations

1. No Documentation Rewrite Needed

Organizations do not need to update or rewrite existing management system documentation or risk registers just because the standalone definition was deleted.

2. Continued Focus & Sharpness

The operational requirement to address risks and opportunities remains fully active and has even been sharpened into dedicated sub-clauses (such as Clause 6.1.4).

Requirements of ISO 14001:2026

CLAUSES 4 – 10

Management System Structure

Clause 4 Context of the organisation

Clause 5 Leadership

Clause 6 Planning

Clause 7 Resources

Clause 8 Operation

Clause 9 Performance evaluation

Clause 10 Continual improvement

KEY DEFINITION

Environment

Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelationships.

Contextual Notes:

- Surroundings can extend from within an organization to the local, regional and global system.
- Surroundings can be described in terms of biodiversity, ecosystems, climate or other characteristics.

CLAUSE 4 : CONTEXT OF THE ORGANIZATION

ISO 14001:2026 FRAMEWORK

Organizational Context



Foundational Pillar

Establishes the internal and external parameters that influence the design and success of the Environmental Management System.

4.1

Understanding the organization and its context

Identify internal and external issues relevant to purpose and environmental outcomes.

4.2

Understanding the needs & expectations of interested parties

Determine stakeholder requirements and compliance obligations.

4.3

Determining the scope of the environmental management system

Define organizational boundaries, applicability, and operational limits.

4.4

Environmental management system

Establish, implement, maintain, and continually improve the EMS framework.

What are the changes in Clause 4

4.1

Clause 4.1 — Understanding the Organization and its Context

While the 2015 version required considering environmental conditions, ISO 14001:2026 explicitly incorporates specific examples directly into the clause text:

Key additions: Pollution levels • Availability of natural resources • Climate change • Biodiversity • Ecosystem health

4.2

Clause 4.2 — Understanding the Needs and Expectations of Interested Parties

The 2026 standard adds Note 1 clarifying that interested parties can have specific needs or expectations related to environmental conditions such as:

Clarified factors: Climate change • Resource availability • Biodiversity loss • Ecosystem health

4.3

Clause 4.3 — Determining the Scope of the Environmental Management System

Updated to explicitly specify authority and ability to exercise control and influence over the environmental impacts:

Core focus: Life cycle control and influence over activities, products, and services

Clause 4.1 – Understanding the Organization and Its Context

DETERMINE THE ISSUES:

Relevant to Organization's Purpose

Aligns with mission, vision, strategic direction, and core operational activities.

Impact on EMS Outcomes

Affects the ability to achieve intended outcomes of the Environmental Management System.



CONCEPTUAL UNDERSTANDING

Develop a **high-level, conceptual understanding** of key ***issues**.

+ Positive Impacts (+ve)

Opportunities to enhance EMS performance & sustainability.

- Negative Impacts (-ve)

Risks or challenges to managing environmental obligations.

Directly influences how the organization manages its overall **environmental responsibilities**.

*WHAT ARE ISSUES?

Important topics for the organization, problems for debate and discussion, or changing internal and external circumstances affecting environmental governance.

Clause 4.1 – Understanding the organization and its context

CONCEPTUAL INPUT

Understand Internal & External Issues

Gain a high-level, conceptual understanding of important issues that directly impact organizational goals.

+ Positive Impacts (+ve)

Opportunities to enhance environmental performance & strategic growth.

- Negative Impacts (-ve)

Risks and challenges that affect how the organization manages its obligations.

***Key Focus: Directly affects how the organization manages its environmental responsibilities.**



**KNOWLEDGE
GAINED**

SYSTEM OUTCOME

Design the EMS

Environmental Management System

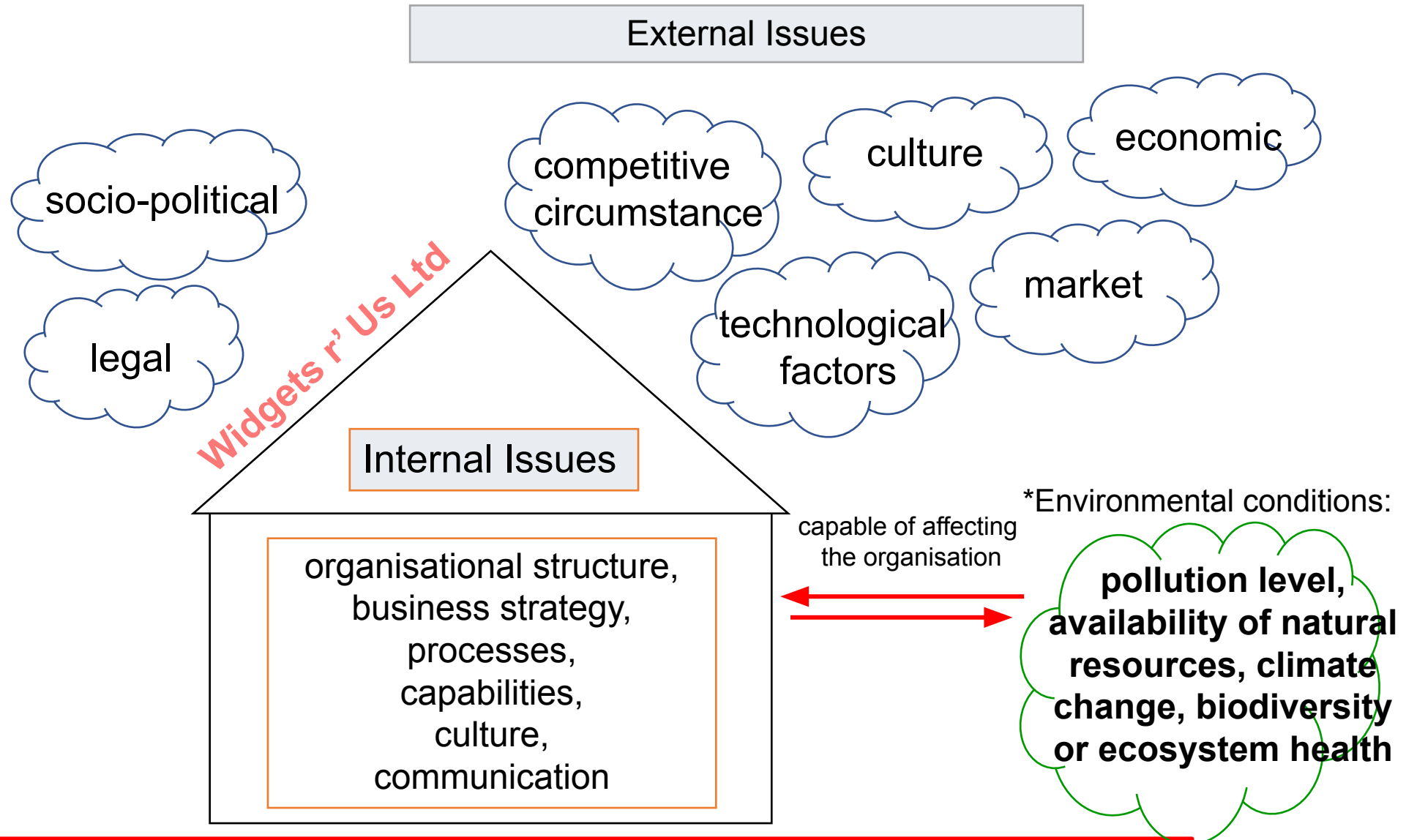
Plan, Implement and Operate

- **Plan:** Establish objectives and processes based on contextual knowledge.
- **Implement:** Execute structured processes and integrate requirements.
- **Operate:** Maintain control, review outcomes, and continuously improve.

Goal: Transform context insights into effective environmental action.

DETERMINING THE ISSUES

Clause 4.1 — Understanding the Organization & Its Context



*environmental condition

State or characteristic of the *environment* as determined at a certain point of time

Examples of External Issues

Political	type of political system in place, e.g. democracy, dictatorship, level of political interference in business development, willingness of politicians to exercise power effectively
Economic	availability of utilities, such as fuel, gas and water, infrastructure and transportation, including housing, road, rail, sea and airports
Financial	recognized financial system, availability and access to financial resources
Competition	other local organizations with a similar purpose and concepts that can be adopted to maintain a competitive position when necessary, such as sustainability, eco-design and eco-labelling
Supply chain management	supplier availability, capacity and capability, level of technology and customer requirements
Social	ethnic values, gender issues, bribery and corruption, availability of workforce, access to education and medical facilities, level of workforce education and levels of criminal activity

Examples of External Issues

Cultural	indigenous burial or sacred sites, heritage buildings/property, availability of specific resources, such as herbal/medicinal plants, craft materials, food used in a cultural context for ceremonial purposes, religious system and aesthetic values
Market and public demand	current and future market trends for products and services, including those that are energy and resource efficient
Technological	availability and access to technology relevant to the organization
Legislative	the legislative framework within which the organization operates (NOTE Legislative framework includes statutory, regulatory and other forms of legal requirements.)
Natural	current and future climatic and other conditions, physical conditions, biodiversity, rare and endangered species, ecosystems, resource availability, including quantity, quality and access, renewable and non-renewable energy, and the specific environmental sector/industry profile

Examples of External Issues

External sources of information that can contribute to the organization's knowledge of external issues can include:

- ✓ customers, suppliers and partners
- ✓ business councils;
- ✓ sector organizations
- ✓ chambers of commerce
- ✓ government bodies
- ✓ international agencies
- ✓ consultants
- ✓ academic research
- ✓ local news media
- ✓ local community groups

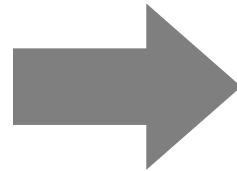
Examples of External Issues

***environmental condition**

State or characteristic of the *environment* as determined at a certain point of time

When considering external issues, you must also consider the **surroundings (environment)** within which your organization operates.

CREATE



Conditions: can be existing or subject to gradual change

Events: can involve a sudden change, which is typically explained by an extreme situation

CAN AFFECT
THE
ORGANISATION

Examples of External Issues

***environmental condition**

State or characteristic of the *environment* as determined at a certain point of time

Conditions may be:

- typical climatic patterns
- air and water quality
- water availability
- land use characteristics of a site
- existing levels of contamination, pollution
- natural resource availability
- existing biodiversity

Events may be:

- extreme weather events – heat wave, flooding
- annual haze

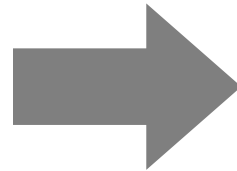
Examples of External Issues

***environmental condition**

State or characteristic of the *environment* as determined at a certain point of time

When considering external issues, you must also consider the **surroundings (environment)** within which your organization operates.

CREATE



Pollution levels, availability or natural resources, climate change, biodiversity or ecosystem health

CAN AFFECT
THE
ORGANISATION

Competition?

Type of
political
system?

Availability of
workforce?

Constant
rain?

Extreme
temp.
change?

Supplier
availability?

Local /
international
market
trends?

New
technologies?

Utilities
availability?

Seasonal
flooding?

Recognized
financial
systems?



Examples of Internal Issues

Organizational governance and structure	national and contractual governance frameworks, including registration and reporting; type of structure, including hierarchical, matrix, flat, project based; joint ventures and contracted services; and parent company relationships, roles and responsibilities and authorities
Legal compliance	status and trends
Policies, objectives, strategies	purpose, vision, business, other objectives and strategies and resources that are needed to achieve them
Capacity and capability	organizational capacity, capability and knowledge in terms of resources and competence (e.g. capital, time, people, language, processes, systems and technologies, and their maintenance)
Information systems	information flows and decision-making processes (both formal and informal) and the time taken for their completion
Relationships	relationships with, and perceptions and values of, internal interested parties
Management systems and standards	strengths and weaknesses of existing management system(s) of the organization, and guidelines and models adopted by the organization, such as those for accounting and finance, quality, safety and health
Organizational style and culture	family business, public or private company, management and leadership style, open or closed culture, and decision-making processes
Contracts	form, content and extent of contractual relationships

Resources available?

Capacity and capability?

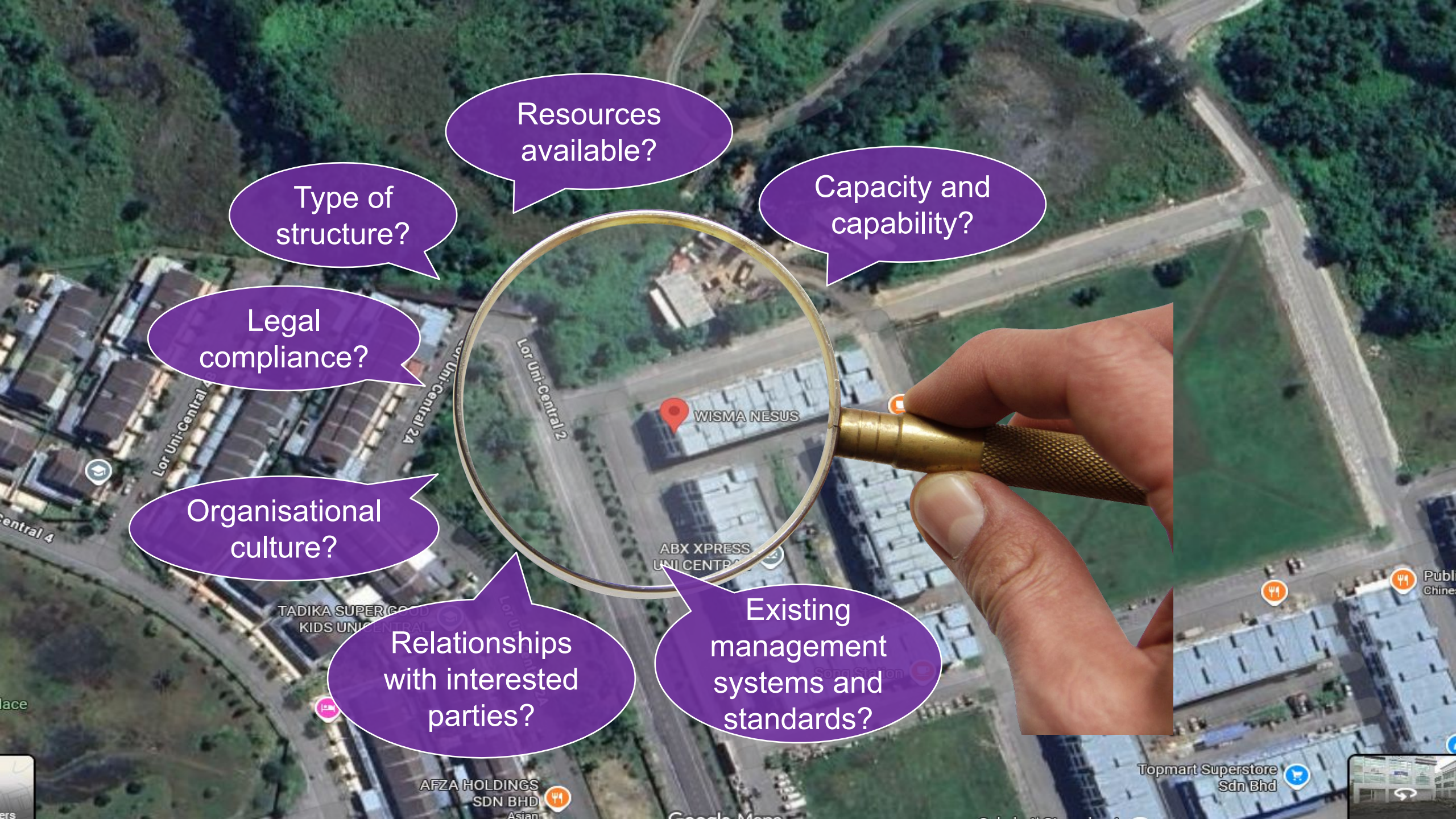
Type of structure?

Legal compliance?

Organisational culture?

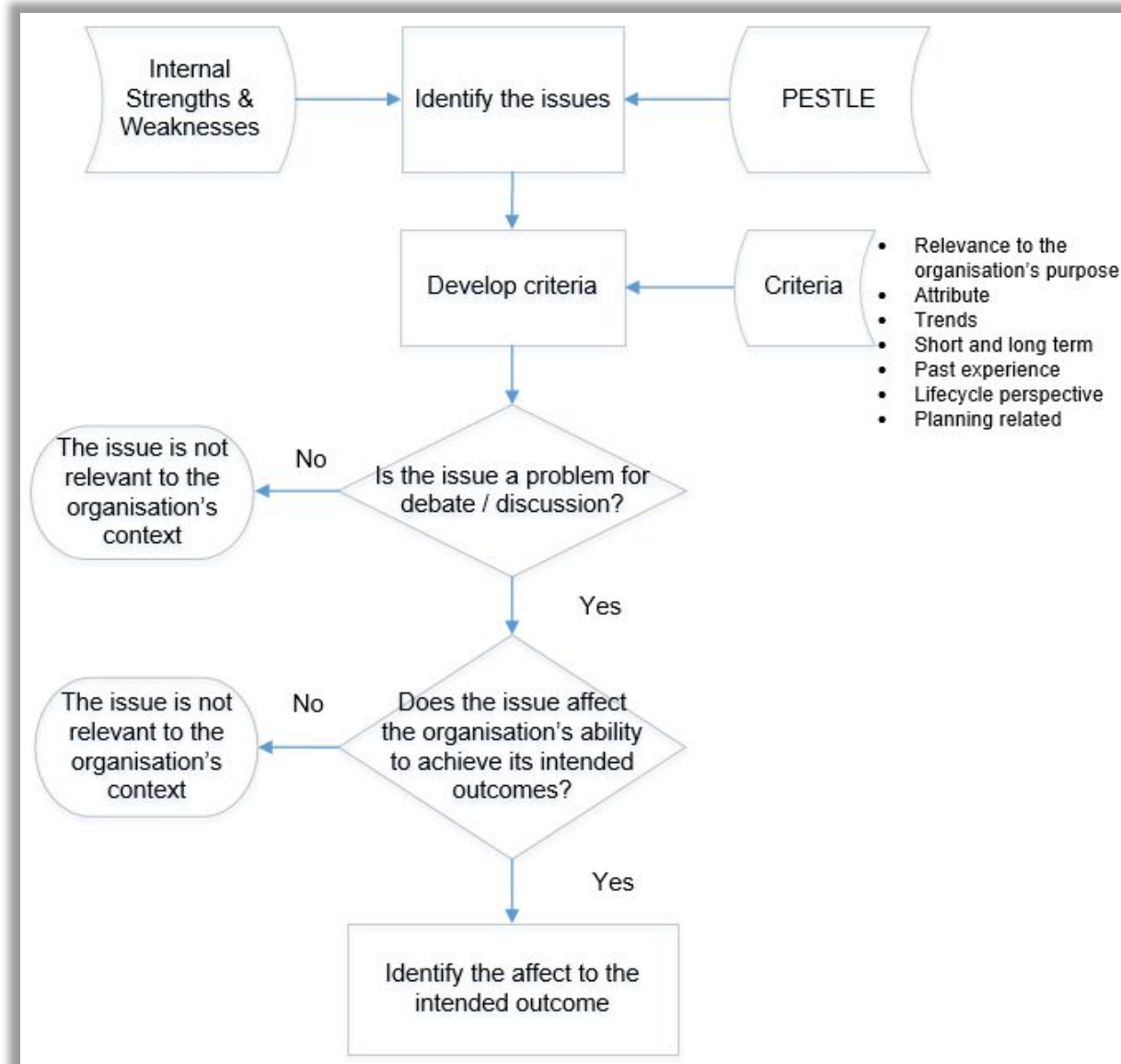
Relationships with interested parties?

Existing management systems and standards?



DETERMINING THE ISSUES

Clause 4.1 — Understanding the Organization & Its Context



External Issues

Internal Issues

How may relevant issues be *identified*?



DETERMINING THE ISSUES

Clause 4.1 – Understanding the Organization & Its Context

Issue	How does it affect the intended outcomes of EMS
EXTERNAL	
Level of workforce education – Unskilled labour who do not speak BM or English	Inability to meet compliance obligations
ENVIRONMENTAL CONDITIONS	
Seasonal flooding	Increased runoff of contaminated material leading pollution
INTERNAL	
Culture – Inconsistent work ethic	Inability to enhance environmental performance

Clause 4.1 – Understanding the organization and its context



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

TCFD

TASK FORCE ON
CLIMATE-RELATED
FINANCIAL
DISCLOSURES



Clause 4.1 – Understanding the organization and its context

Press release

Climate change is already disrupting young people's lives in Malaysia, new UNICEF survey finds

27 July 2026



Photos posted online on March 25 by Datuk Ismail Salleh, who chairs the Muda river basin's agricultural development board, showed receding water levels and parched ground on the banks. PHOTO: DATO DR ISMAIL SALLEH/FACEBOOK/THE STRAITS TIMES

Toxic and Plastic Waste in Malaysia

Imports of foreign plastic waste in 2018, Malaysia became one of the world's main destinations for recyclable waste from developed countries. Large amounts of plastic scrap from the United Kingdom, the United States, Japan, Germany, and several European countries were shipped to Malaysia, often through legal recycling channels but also through illegal smuggling operations. Many shipments were sent to unlicensed recycling factories and hidden dumping grounds, especially in Selangor and other industrial areas near Kuala Lumpur. [Source: Nicola Smith, The Telegraph, May 26, 2020, Associated Press, January 20, 2020; Reuters, July 19, 2020]

- Environmental investigations later revealed that much of the imported waste was improperly processed or illegally dumped. Some recycling operators openly burned plastic waste in fields and abandoned lots, releasing thick smoke and toxic fumes into nearby communities. In places such as Jenjarom in Selangor, residents reported frequent nighttime fires, foul smells, and smoke that caused dizziness, breathing problems, and headaches. Illegal dumping sites were often located near rivers, canals, fish ponds, and residential areas.
- Malaysia also faced problems with imported toxic industrial waste. In 2020, authorities discovered 110 containers carrying 1,864 tonnes of electric arc furnace dust, a hazardous by-product of steel production containing heavy metals such as zinc, cadmium, and lead. The shipment, which originated in Romania and was reportedly bound for Indonesia, had entered Malaysia illegally and was abandoned at Tanjung Pelepas port in Johor. Officials described it as the country's largest toxic waste dumping case.
- The rise in waste imports was linked to global recycling and waste disposal systems. After China closed its market to foreign plastic scrap because of pollution concerns, exporters diverted large amounts of waste to Southeast Asian countries, including Malaysia. Some importers allegedly disguised shipments under false customs codes to bypass inspections, while weak enforcement and the high profitability of recycling encouraged illegal operations to continue. Authorities eventually shut down hundreds of illegal recycling factories, but activists warned that many operators simply moved to remote areas where they were harder to detect. Environmental groups argued that Malaysia had become a dumping ground for foreign waste and called for stricter controls on waste imports and recycling activities.

EXERCISE 1 — Environmental Context Analysis

What are the external and internal issues that have the ability to affect environmental management system's intended outcomes for these organisations?



CASE 01

Construction Sector

Construction of 16-stories apartment in Cyberjaya



CASE 02

Agriculture & Processing

Palm Oil Mill in Bintulu



CASE 03

Manufacturing

Furniture factory in Tawau

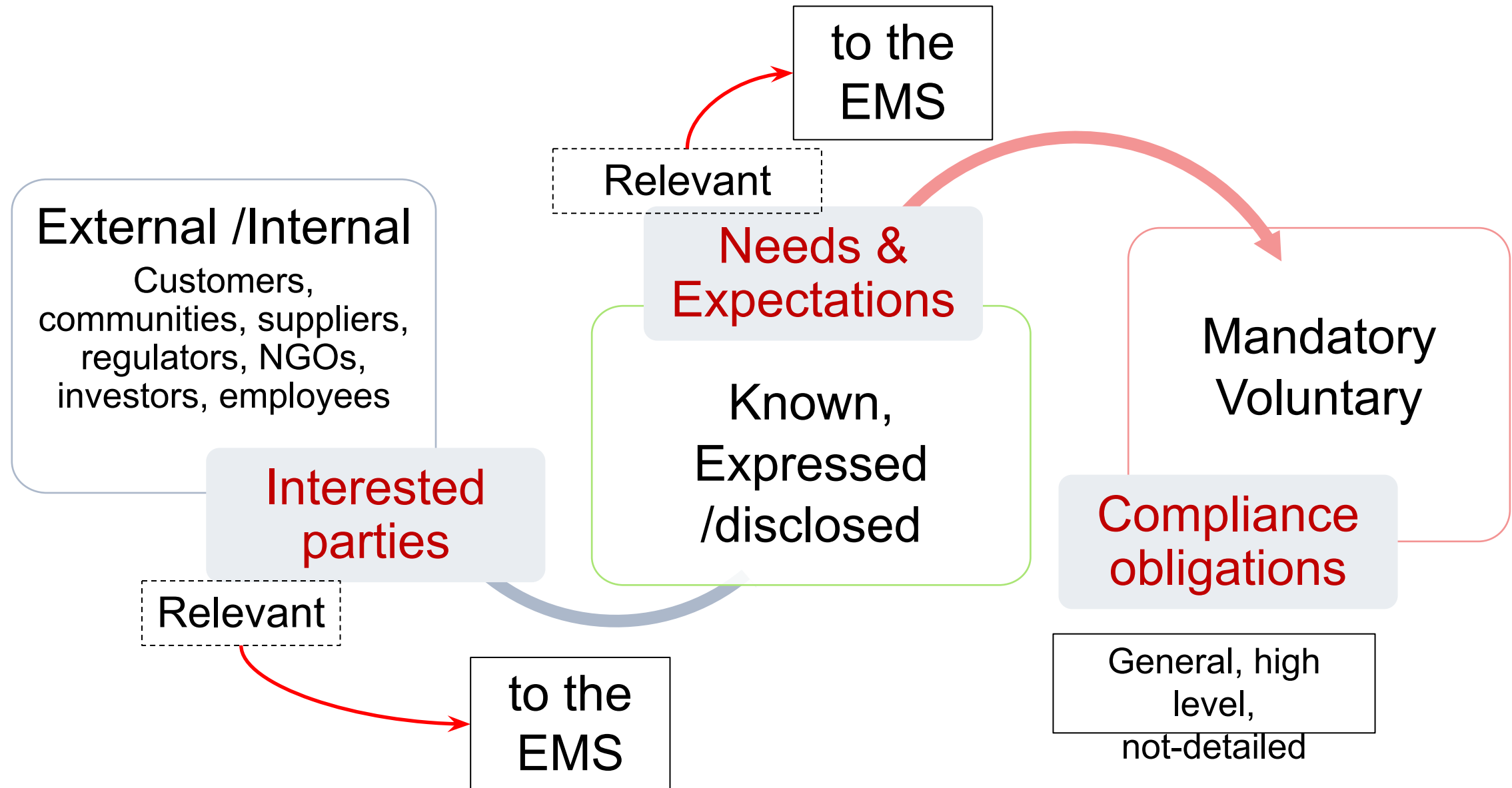
Clause 4.2 – Understanding the needs and expectations of interested parties



***Interested Party Definition:**

Person or organization that can affect, be affected, or perceive itself to be affected by a decision or activity.

Clause 4.2 – Understanding the needs and expectations of interested parties



Clause 4.2 – Understanding the needs and expectations of interested parties

Determining interested parties based on relationship indicators (ISO 14004 Examples):

BY RESPONSIBILITY

Investors

Expect the organization to manage its risks and opportunities that can affect an investment.

BY INFLUENCE

Non-Governmental Orgs (NGOs)

Need the organization's cooperation to achieve the NGO's environmental goals.

BY PROXIMITY

Neighbours & Community

Expect socially acceptable performance, honesty and integrity.

BY DEPENDENCY

Employees

Expect to work in a safe and healthy environment.

BY REPRESENTATION

Industry Membership Orgs

Need collaboration on environmental issues.

BY AUTHORITY

Regulatory / Statutory Agencies

Expect demonstration of legal compliance.

Exercise 2 — Context & Interested Parties

Who are the relevant interested parties, and what are their relevant needs & expectations for these organisations?



CASE 01

Construction Sector

Construction of 16-stories apartment in Cyberjaya



CASE 02

Agriculture & Processing

Palm Oil Mill in Bintulu

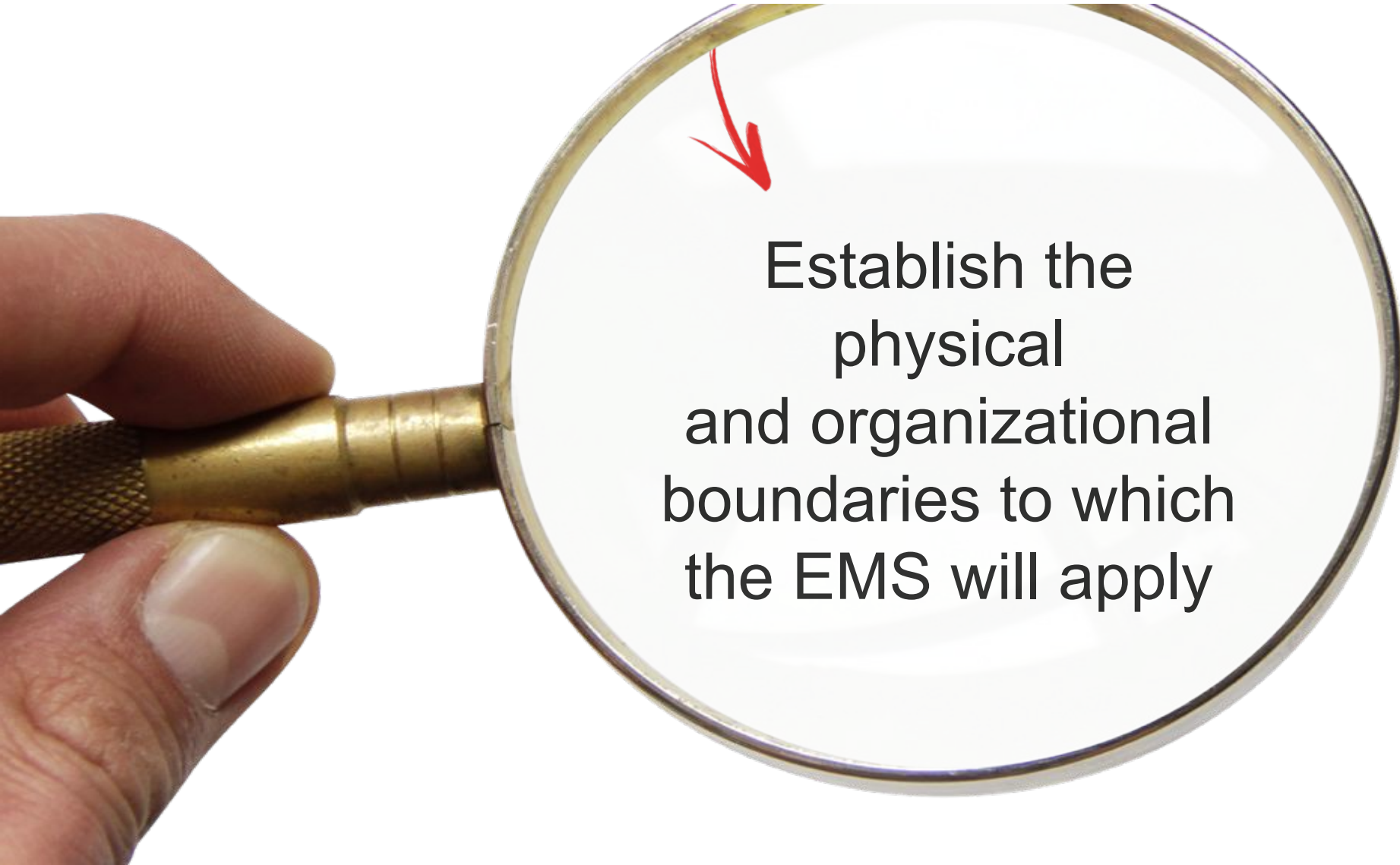


CASE 03

Manufacturing

Furniture factory in Tawau

Clause 4.3 – Determining the scope of EMS

A hand is holding a magnifying glass with a brass handle. The lens of the magnifying glass is focused on a white rectangular area in the center of the slide. A red arrow points from the top left towards this white area. The text inside the white area is centered and reads: "Establish the physical and organizational boundaries to which the EMS will apply".

Establish the
physical
and organizational
boundaries to which
the EMS will apply

Clause 4.3 – Determining the Scope of EMS

When determining the Scope of the EMS, the organization shall **CONSIDER**:

FACTOR 01



Context & Issues

Knowledge of external & internal issues

FACTOR 02



Compliance

Knowledge of general, high-level compliance obligations

FACTOR 03



Boundaries

Units, functions, and physical boundaries

FACTOR 04



Activities & Services

Activities, products, and services

***Life cycle perspective**

FACTOR 05



Control & Influence

Authority & ability over control & influence

***Life cycle perspective**

***Life cycle Definition:**

Consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to end-of-life treatment.

Clause 4.4 – Environmental Management System

System Implementation Framework & Core Purpose

01. IMPLEMENTATION REQUIREMENT



Set of Processes

Creating the '**necessary but sufficient**' set of processes that, together, forms an effective EMS conforming to this international standard.



02. STRATEGIC PURPOSE



Intended Outcomes

To successfully achieve and sustain the **intended outcomes** of its Environmental Management System.

Clause 4.4 – Environmental Management System

"The organisation retains authority and accountability to decide how it will fulfil the requirements of the Standard, including the level of detail and extent of processes..."

01. PROCESS INTEGRATION



Integrate EMS Requirements

Embed environmental management system requirements directly into core business operations and everyday processes.

Target Output: **PROCESSES**

02. CONTEXT & STAKEHOLDERS



Incorporate Context & Expectations

Incorporate organizational context issues and interested parties' requirements when establishing and maintaining the EMS.

System Scope: **EMS**

Auditing for Clause 4

4.1

CONTEXT EVALUATION

Environmental Conditions

Auditors must check whether context evaluations explicitly incorporate critical environmental conditions affecting or affected by the organization:

- Pollution levels
- Natural resource availability
- Climate change
- Biodiversity loss
- Ecosystem health

4.2

STAKEHOLDER NEEDS

Compliance vs Commitments

Verify how stakeholder needs and expectations are properly categorized into:

- **Mandatory** legal requirements
- **Voluntary** commitments chosen by the organization

4.3

SYSTEM SCOPE

Documented Boundaries

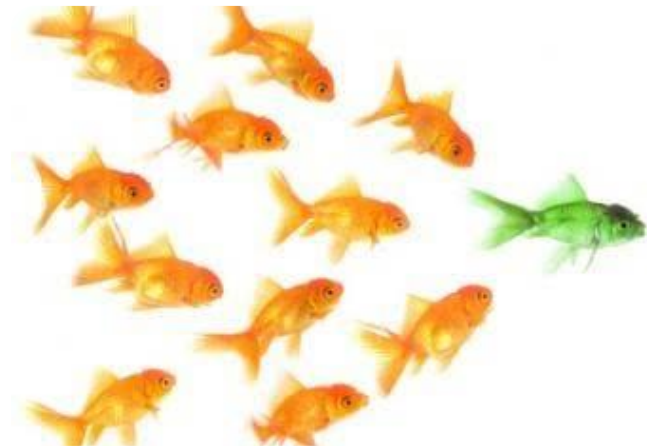
Ensure scope statements are documented and available to interested parties.

- Reflects actual operational control & influence across product/service life cycle
- Not used to "cherry-pick" or exclude facilities/activities with significant aspects or legal obligations

CLAUSE 5 : LEADERSHIP

ISO 14001:2026 FRAMEWORK

Leadership



FOUNDATIONAL PILLAR

Leadership Overview

Establishes the internal and external parameters that influence the design and success of the Environmental Management System.

5.1

Leadership and commitment

Requires top management to demonstrate active accountability, direct strategy, and support key personnel for EMS success.

5.2

Environmental policy

Mandates top management to establish, implement, and maintain environmental commitments aligned with strategic purpose.

5.3

Organizational roles, responsibilities and authorities

Ensures responsibilities and authorities for relevant EMS roles are clearly assigned, communicated, and understood.

What are the changes in Clause 5?

KEY CHANGES IN CLAUSE 5.2 (ENVIRONMENTAL POLICY)

01

STANDARD TERMINOLOGY

Updated Commitments

Aligns policy commitments with updated standard terminology:

"commitment to meet its compliance obligations"

02

DOCUMENTATION

Documented Info

Explicitly requires that the environmental policy must:

"be available as documented information"

03

ACCESSIBILITY

Interested Parties

Mandates clear accessibility, requiring the policy to:

"be available to interested parties"

Clause 5.1 – Leadership & Commitment

Demonstrate Leadership



Taking **accountability** for the EMS's effectiveness

Communicating importance of effectiveness and conformance

Directing and supporting persons contributing to its effectiveness

Promoting continual improvement

Support other relevant leadership roles

***Ensure:**

Environmental policy and objectives established compatible with strategic direction and context

Integration of EMS into business processes

Resources needed available

EMS meets intended outcomes

***Ensure** - Responsibility can be delegated but not the accountability

Clause 5.2 – Environmental Policy

01

Organizational Context

Appropriate to the purpose and context of the organisation.

02

Objectives Framework

Provides a framework for setting environmental objectives.

03

Compliance Obligations

Commitment to fulfil its compliance obligations.

04

Protection of the Environment

- **Prevention of pollution**
- Sustainable resource use
- Climate change mitigation & adaptation
- Protection of biodiversity & ecosystems

05

Continual Improvement

Commitment to continual improvement of the environmental management system (EMS) to enhance environmental performance.

SAFETY, HEALTH & ENVIRONMENT POLICY

CEXCO (M) Sdn. Bhd. provides services for the conceptualisation, design and installation of exhibitions for event management to customers in Malaysia.

CEXCO is committed to the protection of environment, and to provide a safe and healthy workplace on order to prevent injury and ill health to those working on our behalf that is appropriate to the purpose, size and context of CEXCO and the type of OHS risk and OHS opportunities that existed in CEXCO. We realize that our work activities may create risks to the environment and health and safety hazards and risks to our workers, suppliers and contractors including those resulting from physical, chemical, physiological and other hazards created both in the workplace and in the vicinity of the workplace.

It is our intent to identify those work related activities and services that have the potential to create hazards and risks to the safety and health of our workers, contractors and external providers. Controls or other methods shall be determined to eliminate the hazards where practicable or minimised the impacts and OHS risks. CEXCO shall set objectives and targets with the intent of continually improving our safety, health and environmental and QESH management system performance.

CEXCO is committed to comply with relevant safety, health and environmental legal requirements and to other requirements to which we may subscribe.

We will work together with our workers, suppliers and contractors, as necessary, to make them aware of their obligations to health and safety, implement and maintain our QESH management system and make our policy available to our interested parties.

CEXCO is committed to conduct consultation and participation with our workers in occupational safety and health issues. CEXCO also shall consider all views from its workers, individuals, communities that is effected by CEXCO's activities and other interested parties.

CEXCO's management will periodically review our policy in order to improve the safety and health of the public and our workers, contractors and suppliers.

Mandy Yow

Sustainability Policy

CONVEX MALAYSIA SDN BHD acting as the managing agent of the KUALA LUMPUR CONVENTION CENTRE provides meetings, incentives, conventions and event management services to both local and international customers.

Kuala Lumpur Convention Centre is a five-level purpose-built facility. The Centre encompasses over 33,659 sqm of flexible multi-purpose function space in the heart of the iconic Kuala Lumpur City Centre (KLCC) precinct. Its facilities include two auditoria – Plenary Hall and Plenary Theatre, eight exhibition halls, a Grand Ballroom, Banquet Hall, three Conference Hall and twenty meeting rooms.

Our objective is to support the long-term sustainability goals of the business events sector in Malaysia. There are various potential environmental impacts stemming from the provision of services in this industry.

It is our policy to identify those activities and services that have the potential to cause significant environmental impacts to the public, our employees, suppliers and contractors and to eliminate where practicable or reduce through treatment or other means the impact that they pose.

Our approach to achieving sustainable outcomes starts with our commitment to complying with, the relevant Malaysian legislation and other requirements, and where practicable exceeding expectations set by Malaysian law. These requirements are related to our activities and environmental impact including those determined by our client.

Our overall objectives are to ensure legal, sustainability and prevention of environmental pollution by continually improving our environmental performance. Using the Earth Check programme which requires the setting of benchmarked performance standards as well as by aligning our objectives to the United Nations Sustainable Development Goals, our measurable goals and targets are aimed at minimizing environmental impacts.

Special consideration will be given to employing and empowering local employees, and wherever possible sustainable products and services will be sourced locally in accordance with Fair Trade principles.

It is our policy to publish this environmental and sustainability policy and the results of our annual performance assessment through regular and effective communication with our guests, employees, suppliers, contractors, the local community and other interested parties. We also encourage them to participate in our environmental and social programme, where practicable and to aid in our objective to support the long-term sustainability of the business events sector.

Our customers, employees, suppliers and contractors are encouraged to read, understand and maintain the intent of our policy within our organisation and to communicate this policy to all those who have an interest in our activities and the services we provide.

This policy will be reviewed periodically along with the results of our environmental performance and changes made to reflect our ongoing commitment to the environment.

Event Sustainability Development Policy

The GL events UK group plays an integral part in the events industry; designing and installing a wide range of temporary structures, modular and semi-permanent buildings. We provide complete temporary event infrastructure and overlay solutions and tiered grandstand seating.

GL events UK recognises its duty to demonstrate leadership in the field of event sustainability management by conducting its event-related activities in line with the GL events UK Sustainability Development Policy.

We aim to minimise any negative impacts from our event-related activities through the implementation of the ISO20121 sustainable events management standard, comprising the stages of the event management cycle that we can influence.

The aim and vision of the GL events UK team is to provide an inspirational approach to events sustainability within our sphere of operation. The vision and strategic objectives are supported by the principles of sustainable development. We define these as inclusivity, integrity, stewardship, transparency and legacy as referenced within our Statement of Purpose and Values.

GL events UK intends to address the objectives set out in the GL events Sustainability Policy and we believe we can make the most beneficial changes to our event-related activities by focusing on the following key themes:

- Use energy and natural resources efficiently;
- Reduce total waste produced by minimising consumption, using resources productively, increasing reuse and recycling and using refurbished, recycled, products and materials;
- Reduce the environmental impact of staff and visitor travel by promoting sustainable transport use and work with contractors to maximise the sustainability of our transport activities;
- Promote and encourage diversity and inclusion, ensuring services delivered are accessible, inclusive and appropriate;
- Protect the infrastructure of venues;
- Ensure that direct employees are paid the National Living Wage and encourage contractors to pay the equivalent.

GL events UK will ensure delivery through the following measures:

- Ensuring compliance with relevant legislation;
- Work closely with GL events UK staff, contractors, supply chain and other key stakeholders to ensure sustainability principles are integrated into event management;
- Reviewing practices to ensure we meet our sustainability responsibilities and act as an exemplar;
- Provide adequate resources to deliver against the objectives and commit to continual improvement;
- Continue to achieve a positive legacy.

The Event Sustainability Development Policy will be brought to the attention of all employees and made publicly available on the GL events UK website. It should be read in conjunction with our other management system policies.

GL events UK Management Team is committed to constantly reviewing this policy with a reconfirmation at least every 12 months



Grooveyard Event Management Environmental & Sustainability Policy

Mission: Grooveyard is an events service provider committed to delivering quality event management services. As an event specialist it is committed to the protection of health, sustainability and environment and is determined to minimise any adverse impacts as a result of its activities.

Our aim is to be Ireland's best event management agency and to maintain the best standards in all services we provide. Our legacy is to offer an inspired sustainable solution to any event and to ensure we not only meet but continue to exceed our customer's expectations. We will work with all our clients and stakeholders throughout the entire event cycle to ensure we can deliver the most economically, socially and environmentally friendly events.

To this end Grooveyard is committed to taking the following actions:

- **Promoting Awareness:** We inform and motivate all our staff and encourage them to play an active role in Grooveyard's commitment to its environmental policy
- **Environment and our clients:** We will work with our clients by initiating environmental or sustainable initiatives for their events and educating them and encouraging them to include these solutions to their events.
- **Continuous Improvement:** We set specific targets, monitor progress and communicate results internally
- **Property Management:** We are always improving our buildings. We will manage our buildings in a manner that will reduce the associated environmental impacts and be sympathetic with the external surroundings. By addressing the issue of energy efficiency in our buildings, we will contribute to the reduction of greenhouse gas emissions in line with national and international agreements
- **Mindful Procurement:** We will use Grooveyard's purchasing policy to favour suppliers and contractors that adopt best environmental practices including transport, accommodation, venues, AV, etc.
- **Waste management:** We continue to promote, develop and implement waste prevention, reduction, re-use and recycling on-site in a systematic and cost-effective manner. We will use appropriately regulated waste management contractors to ensure safe management of hazardous and non-hazardous waste sent off-site in accordance with best environmental practice
- **Contractor and supplier management:** Sourcing the most sustainable suppliers available and ensuring they sign up to the Grooveyard sustainability management system.
- **Staff:** Training and developing our staff and implementing our HR policy to ensure staff retention is high and ensuring staff deliver events to the highest standards and within the scope of our policies.

Principles: The entire Grooveyard team are committed to the adoption and promotion of our sustainability principles across all our business activities. We are dedicated to minimising our negative impacts and promoting our positive impacts. We recognise our main principles as awareness, inclusivity, communication, continual improvement and integrity.



Clause 5.3 – Roles, Responsibilities & Authorities

TOP MANAGEMENT MANDATE

Core Requirement

Top Management ensure that responsibilities and authorities are assigned and communicated.

Key Implementation Focus:

- **EMS Requirements:** Assigning responsibility for ensuring the EMS conforms to ISO 14001.
- **Performance Reporting:** Reporting on the performance of the EMS to Top Management.
- **Relevant Roles:** Distributing duties across relevant functional roles in the organization.

Responsibilities

What must be done:

- Operational execution of EMS procedures
- Monitoring environmental aspects & controls
- Reporting environmental performance metrics

Authorities

Power & decision capability:

- Decision-making power for corrective actions
- Resource allocation and process authorization
- Escalation rights for environmental risks

Who is Involved in the EMS?



Top Management

Overall accountability, strategy, & resource provisioning.



EMS Leaders / Champions

EMS implementation, compliance, & reporting performance.



All Personnel

Adhering to procedures & operational environmental controls.

Auditing for Clause 5

CLAUSE 5.1 AUDIT FOCUS

Ultimate Accountability

Top management can delegate operational duties but retains ultimate accountability for EMS effectiveness.

Key Audit Considerations:

- **Delegation Limits:** Verify clear boundary lines between delegated operational duties and top management oversight.
- **EMS Leadership:** Ensure top management actively reviews system effectiveness and resource sufficiency.
- **Governance Evidence:** Look for direct management involvement in key EMS decision-making processes.

STRATEGIC ALIGNMENT

Business Integration

Embed environmental policy commitments into core functions rather than managing as a standalone silo.

Key Audit Considerations:

- **Budgeting & Resources:** Confirm environmental objectives are funded within main financial budgets.
- **Procurement & Ops:** Check for environmental criteria integrated into vendor selection and daily operations.
- **Cross-Functional Ownership:** Ensure non-EHS departments actively track relevant environmental metrics.

CLAUSE 5.2 AUDIT FOCUS

Standardized Policy Terms

Verify explicit commitments to environmental protection, meeting compliance obligations, and continual improvement.

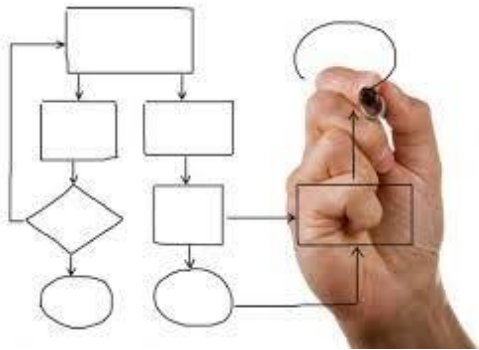
Key Audit Considerations:

- **Compliance Shift:** Audit for explicit language around "meeting compliance obligations" vs legacy "fulfilling" terms.
- **Environmental Protection:** Verify commitments extend beyond basic pollution prevention.
- **Continual Improvement:** Ensure policy sets clear expectations for ongoing system enhancement.

CLAUSE 6 : PLANNING

ISO 14001:2026 FRAMEWORK

Planning



Core Objective

Establishes the planning required to address risks and opportunities, set environmental objectives, and outline actions to achieve these objectives effectively.

6.1 Actions to address risks and opportunities

6.1.1 General

6.1.2 Environmental aspects

6.1.3 Compliance obligations

6.1.4 Risks and opportunities

6.1.5 Planning action

6.2 Environmental objectives and planning to achieve them

6.2.1 Environmental objectives

6.2.2 Planning actions to achieve environmental objectives

6.3 Planning of changes

Systematic planning and operational control of changes within the Environmental Management System.

What are the Key Changes in Clause 6?

ISO 14001:2026 RESTRUCTURE

Reorganization of 6.1

Clause 6.1 expanded from 4 to 5 subclauses

ISO 14001:2015 Division:

6.1.1 (General), 6.1.2 (Environmental aspects), 6.1.3 (Compliance obligations), 6.1.4 (Planning action)

ISO 14001:2026 Expanded Structure:

- 6.1.1 General
- 6.1.2 Environmental aspects
- 6.1.3 Compliance obligations
- **6.1.4 Risks and opportunities NEW SUBCLAUSE**
- 6.1.5 Planning action

DEDICATED SUBCLAUSE & GUIDANCE

Risks & Opportunities

Clause 6.1.4 Mandate: Covers determination of risks & opportunities from context (4.1), interested parties (4.2), and scope (4.3).

Beneficial Opportunities (A.6.1.4):

- Transition to a **circular economy**
- Land management for **biodiversity**
- Using **real-time data analytics**
- Environmental group partnerships

Adverse Risks (A.6.1.4):

- Extreme weather / climate events (**wildfires, flooding, extreme heat, drought**)
- Supply chain raw material constraints
- **Water scarcity**

NEW STANDALONE MANDATE

Clause 6.3 — NEW

Planning of Changes

Introduces systematic governance when modifying the EMS.

Key Requirement:

When an organization determines a need to modify its EMS, changes MUST be executed **in a planned manner**.

Primary Purpose:

- Preserve system integrity during structural or operational transitions.
- Ensure intended EMS outcomes continue to be achieved seamlessly.

Clause 6.1 – Actions to address Risks and Opportunities

Organisation shall establish, implement and maintain process(es) to manage conformity to:



01

Environmental Aspects

Identify and evaluate environmental aspects of activities, products, and services that the organization can control or influence.



02

Compliance Obligations

Determine legal and mandatory requirements related to environmental aspects and how they apply to the organization.



03

Risks and Opportunities

Determine operational risks and strategic opportunities that need to be addressed to assure intended outcomes.



04

Planning Actions

Plan actions to address all above items and integrate them seamlessly into EMS processes and business operations.

Clause 6.1.2 – Environmental Aspects

ISO 14001 STANDARD DEFINITION

"Element of an organisation's activities or products or services that interacts or can interact with the environment"

ACTIVITIES / PRODUCTS

The causes or operations (e.g., manufacturing, emissions, water usage, waste disposal).

INTERACTION

The mechanism or pathway of contact (actual or potential link to surroundings).

ENVIRONMENT

The surrounding receptor (air, water, land, natural resources, flora, fauna, humans).

Clause 6.1.2 – Environmental Aspects

OVERARCHING PERSPECTIVE: LIFE CYCLE PERSPECTIVE



TAKE INTO ACCOUNT WHEN DETERMINING ASPECTS

1. Change

Planned or new developments, and new or modified activities, products, and services.

2. Abnormal Conditions

Start-up, shut-down, maintenance, power disruptions, or non-routine operating conditions.

3. Emergency Situations

Reasonably foreseeable emergency situations (accidents, spills, fires, unplanned events).

***take into account** – necessary to think about, but cannot be excluded

Clause 6.1.2 – Environmental Aspects

Requirement • Environmental Risk Assessment

Determine Potential Emergency Situations

Including those that can have an environmental impact

Identify based on:

01

Nature of Onsite Hazards

Evaluate facility operations, hazardous materials stored, equipment risks, and physical site vulnerabilities.

02

Type & Scale of Emergency

Determine the most likely emergency scenarios, severity levels, potential spread, and magnitude of impact.

03

Nearby Facility Potential

Consider external domino effects, neighboring industrial hazards, and shared environmental receptors.

***Emergency Definition**

Situations are unplanned or unexpected events that need urgent application of specific competencies, resources or processes to prevent or mitigate their actual or potential consequences.

Clause 6.1.2 – Environmental Aspects

When determining its environmental aspects, organisations can consider:

Emissions to Air

Direct and indirect airborne discharges, fumes, gases, and particulate matter.

Releases to Water

Effluent, wastewater, chemical runoff, and aquatic discharges affecting water bodies.

Releases to Land

Soil contamination, accidental chemical spills, and ground disposal impact.

Raw Materials & Resources

Consumption and depletion of natural raw materials, minerals, and water.

Use of Energy

Overall electricity, fuel, heat, and renewable/non-renewable energy usage.

Energy Emitted

Heat, radiation, vibration, noise/sound, and light pollution into surroundings.

Waste & By-Products

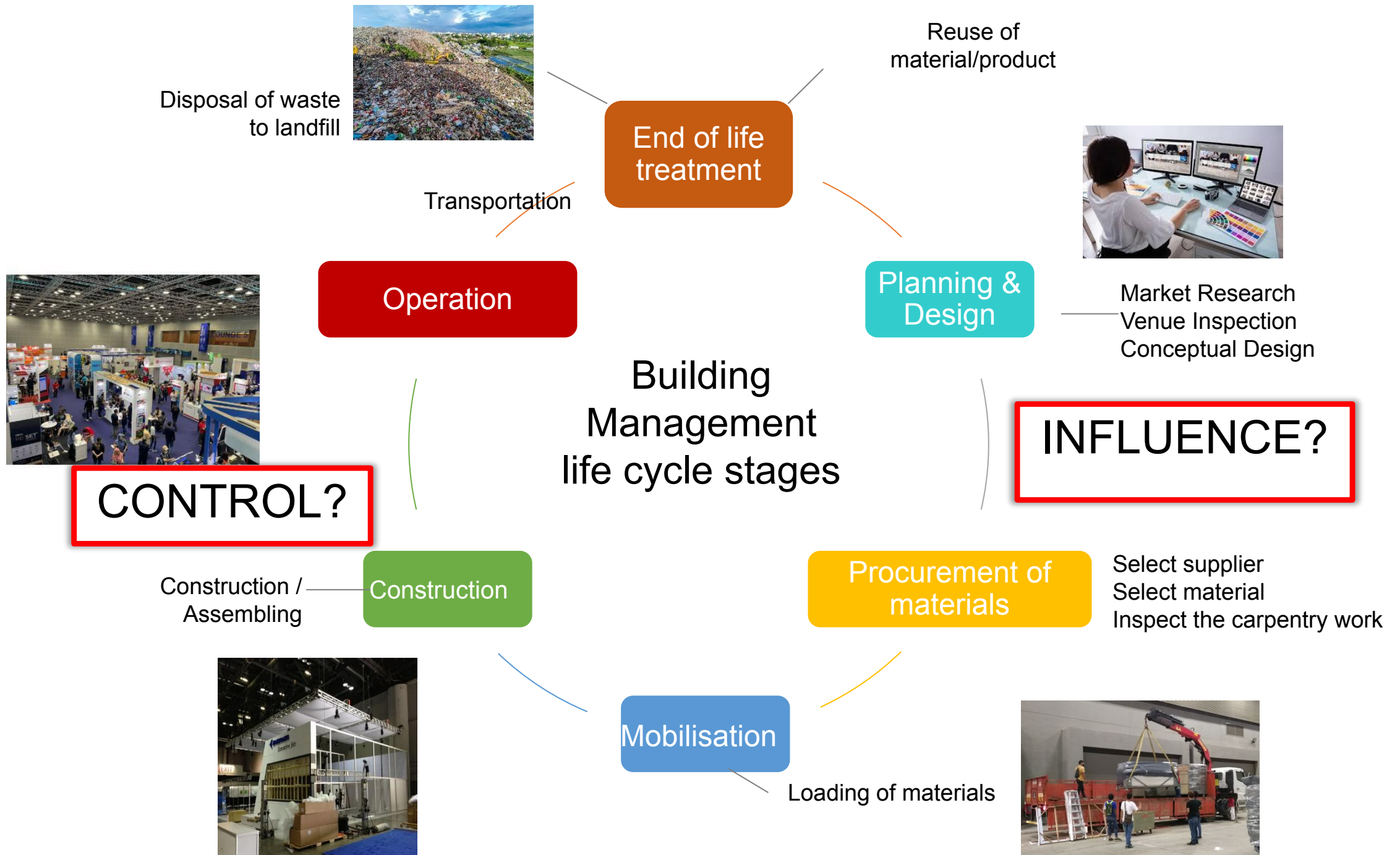
Generation of solid/hazardous waste, scrap, and operational by-products.

Land Use

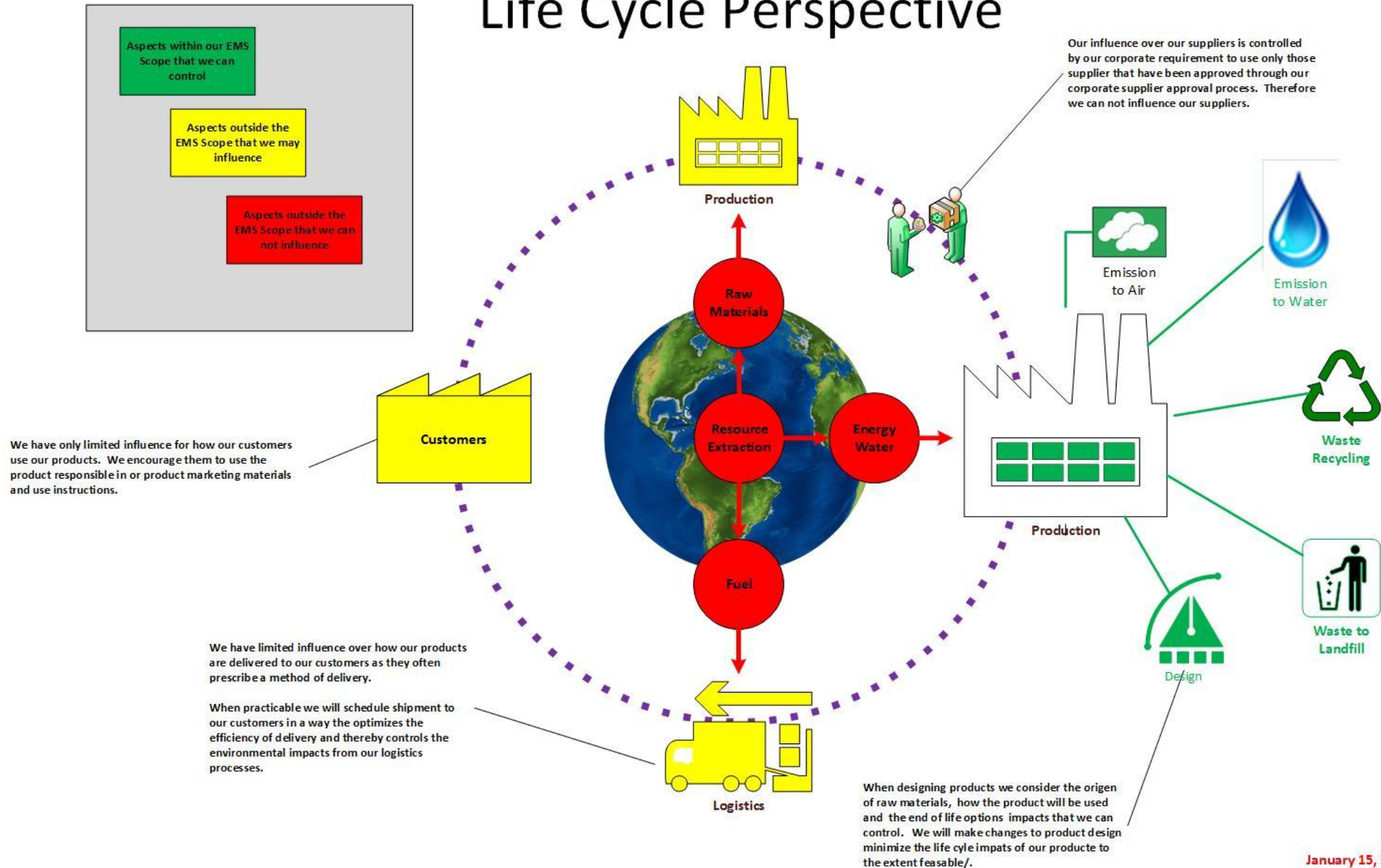
Physical footprint, land alteration, habitat disruption, and site development.

Marine & Coastal Area

Activities impacting coastal ecosystems, marine life, and offshore environments.



Life Cycle Perspective



Clause 6.1.2 – Environmental Aspects

Mining Life Cycle & Environmental Management

01

Exploration and Planning

Environmental baselines and impact assessments that consider long-term land use, water dependency, and biodiversity effects.

02

Extraction Phase

Using low-impact drilling and blasting techniques, optimising haul routes to reduce fuel use, and ensuring responsible chemicals management.

03

Processing Activities

Maintaining closed-circuit water systems, energy-efficient crushers and mills, and managing tailings facilities responsibly.

04

Waste & By-Product Management

Ensuring waste rock, tailings, and hazardous waste are managed with long-term rehabilitation in mind.

05

Mine Closure & Rehabilitation

Designing closure plans that include land restoration, erosion control, and post-closure monitoring for decades.

Clause 6.1.2 – Environmental Aspects

Life Cycle Perspective & Environmental Framework

Scope & Direct Influence

Control & Influence

- Activities
- Products
- Services

Operating Conditions

Take Into Account

- Change
- Abnormal conditions
- Reasonably foreseeable emergency situations

Overarching View

Life Cycle Perspective

Environmental Aspects

Elements of an organization's activities, products, or services that interact or can interact with the environment.

Significance Assessment

Evaluation & Ranking

- Apply significance criteria
- Ranking process

Environmental Outcome

Environmental Impacts

Adverse/beneficial change to the environment resulting from an organisation's environmental aspects

Priority Focus

Significant Aspects & Impacts

Key environmental aspects and associated impacts identified through the evaluation and ranking process.

Organizational Risk

Risks and Opportunities

Potential adverse effects (threats) and potential beneficial effects (opportunities)- organisation

Clause 6.1.2 – Environmental Aspects

Significant Environmental Impacts

Key requirements for establishing criteria and ranking environmental impact severity.

Requirement 01

Establishment of Criteria

The determination of a significant impact will require the establishment of:

1. Significance Criteria

- Environmental criteria — primary and minimum

2. Other Key Inputs

- Information on compliance obligations
- Concerns of interested parties

Requirement 02

A Ranking Process

Systematic evaluation and scoring mechanism to prioritize environmental impacts:

Likelihood & Consequences

Evaluates the probability of occurrence alongside the potential severity of environmental consequences.

Evaluation Formula

Consequences × Likelihood = Significance

Clause 6.1.2 – Environmental Aspects

Identifying significant environmental impacts through structured evaluation of severity and probability.

Evaluation Formula

$$\text{Consequences} \times \text{Likelihood} = \text{Impact Significance}$$

Dimension 01

Consequences

Measure of Severity

Measure of the severity of the impact to the environment if the occurrence does occur.

Key Focus Area:

Evaluates physical, regulatory, or operational severity on environmental receptors.

Dimension 02

Likelihood

Probability × Frequency

Probability x frequency that the occurrence, if it does occur, will result in the consequence.

Key Component:

Calculated by assessing how often an event occurs and its likelihood of causing impact.

Clause 6.1.2 – Environmental Aspects

Consequences

Likelihood		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
	Almost Certain (5)					
	Frequent (4)					
	Likely (3)					
	Unlikely (2)					
	Extremely Rare (1)					

Clause 6.1.3 – Compliance Obligations

Core Definition

Legal requirements that an organization has to comply with and other requirements that an organization has to, or chooses to comply with.



Mandatory Requirements

Legal Requirements

Mandatory obligations imposed by applicable law and regulatory bodies that the organization must strictly fulfill:

- **Legislation & Statutory Laws** (National, regional, or local regulations)
- **Permits & Licenses** (Operating conditions, environmental permits)
- **Court Orders & Directives** (Legally binding judgments)
- **Treaties & Executive Orders** (Governmental compliance mandates)



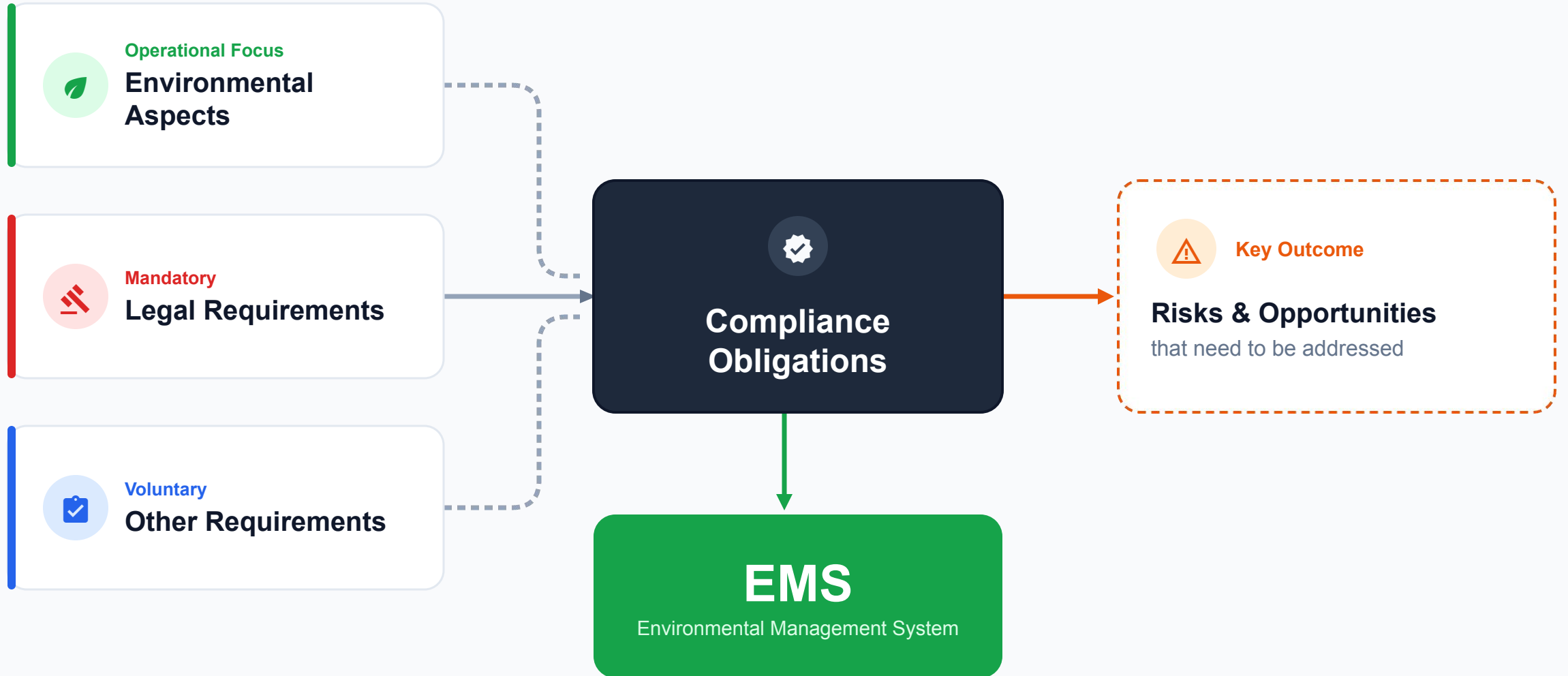
Voluntary Commitments

Other Requirements

Requirements that the organization adopts, subscribes to, or chooses to comply with voluntarily:

- **Industry Standards** (ISO standards, voluntary codes)
- **Agreements & Contracts** (Customer, community, or NGO agreements)
- **Organizational Standards** (Internal policies, corporate guidelines)
- **Public Commitments** (Environmental charters or sustainability pledges)

Clause 6.1.3 – Compliance Obligations



Clause 6.1.4 – Risks and Opportunities



Clause 6.1.2 – Environmental Aspects

Example:

Significant environmental aspect – solid waste generated from building operation

Significant environmental impact – Land pollution at landfill areas

Depletion of available land due to landfill operations

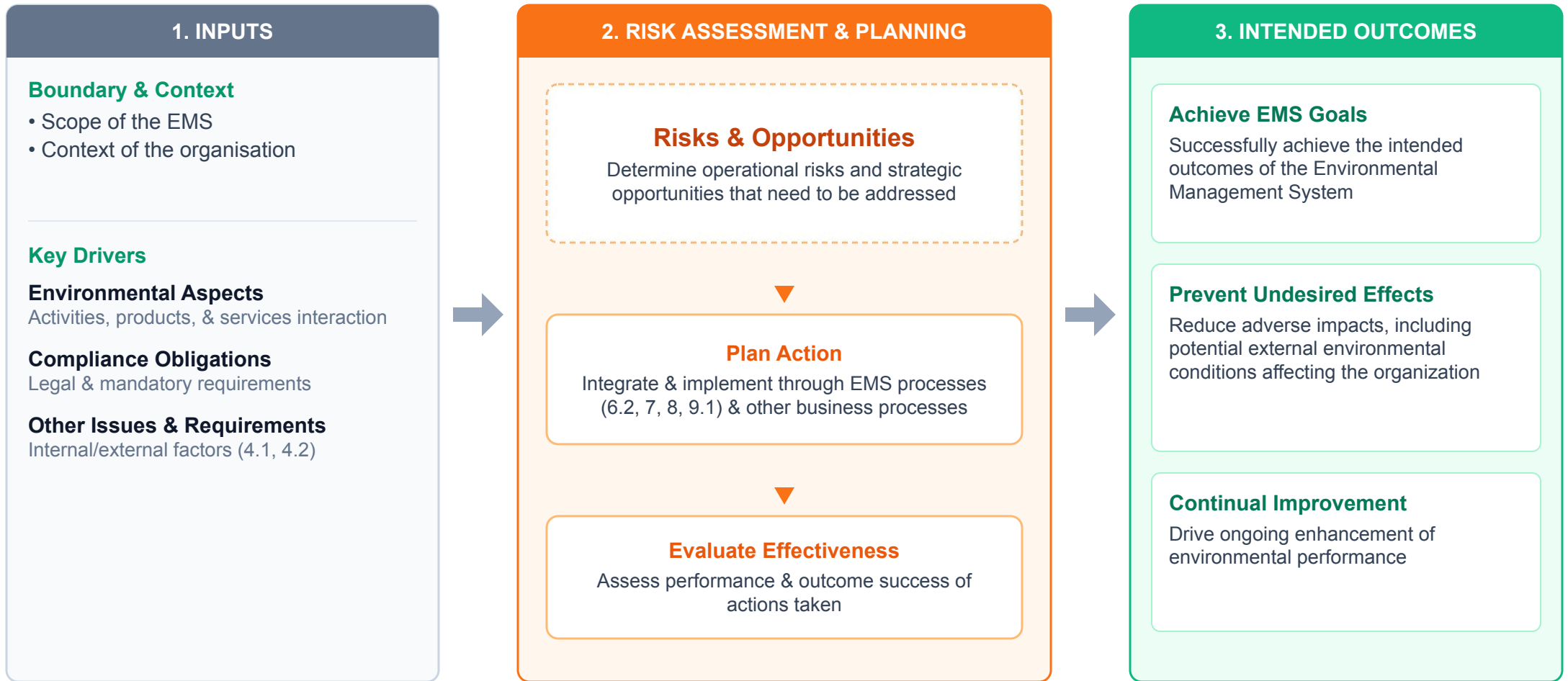
Are there resulting Risks and Opportunities
that need to be addressed?

Risk (adverse effect) to the organisation - Risk of pollution because many landfill in Sarawak are fast reaching or have already exceeded their maximum capacities.

Opportunity (beneficial effect) to the organisation –

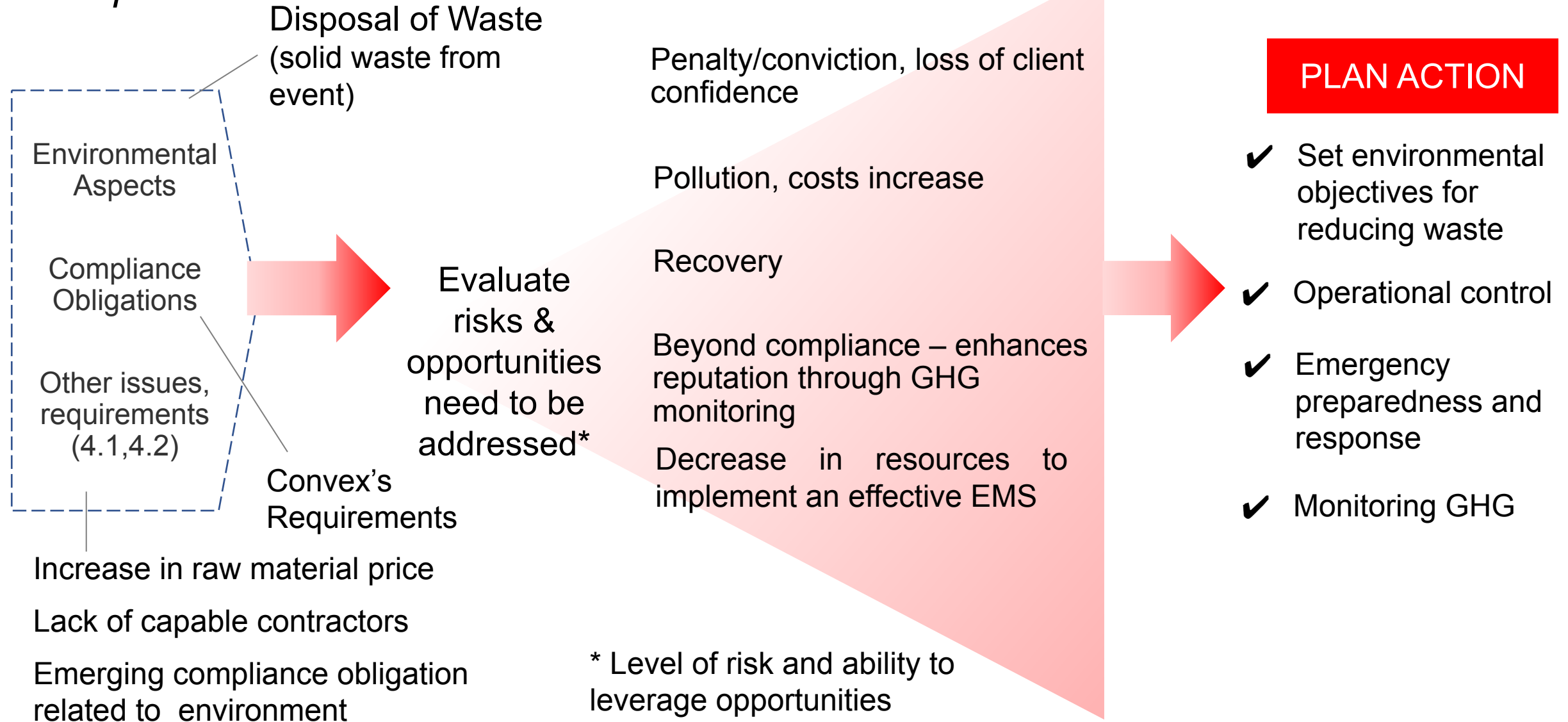
- Recycle or Recovery (sell) - increase financial resources on EMS
- Source reduction - change material to biodegradable material

Clause 6.1.5 – Planning Action



Clause 6.1– Actions to address risks and opportunities

Example:



Examples of activities, products and services and their associated environmental aspects and impacts, risks and opportunities, and actions

Activity/ product/ service	Aspects	Actual and potential impacts	Risks and opportunities that need to be addressed	Planning to take action
Activity: Oil-fired boiler operations				
Operation of boiler	Use of heating oil	Depletion of non-renewable natural resources	Risks (potential adverse effects) • Heating oil not available • Cost of heating oil increases Opportunities (potential beneficial effects) • Replace boiler heating source by solar energy • Reduce operating costs	Finance department asked to monitor fuel prices, compare future cost scenarios and conduct cost benefit analysis Establish an environmental objective to replace boiler heating source by solar energy
	Emission of sulphur dioxide, nitrogen oxides and CO ₂ (i.e. greenhouse gas)	Respiratory impacts on local residents Acid rain impacts on surface water Global warming and climate change	Risks (potential adverse effects) • Failure to fulfil compliance obligations • Possible fine • Negative publicity received Opportunities (potential beneficial effects) • Reduce emission – install flue gas desulphurisation unit	Put in place operational controls to ensure compliance obligations are fulfilled Establish an environmental objective to install appropriate emission abatement equipment

Clause 6.2 - Environmental Objectives and Planning to Achieve Them



Example of Performance Indicator

Quantity of raw material or energy used

Quantity of emissions, such as CO₂

Number of environmental incidents; e.g. spills

Percentage waste recycled

Investment in environmental protection

Number of prosecutions

Number of persons trained in environmental aspect identification

Clause 6.2 - Environmental Objectives and Planning to Achieve Them



Examples of activities, products/services and their associated environmental aspects, environmental objectives, targets, programmes, indicators, operational control, and monitoring and measurement

Aspects	Objectives	Targets	Programmes	Indicators	Operational control	Monitoring and measurement
Activity: Oil-fired boiler operations						
Use of heating oil	Reduce the use of non-renewable resources	Reduction of the use of heating oil (based on current year use) by 20 % within 1 year	Installation of more efficient fuel burners	Project plan milestones Use of heating oil per working hour of the boiler	Processes for installation of modified burners Processes for recording oil use	Quarterly evaluation of progress on project plan Monthly tracking of oil use rates
Discharge of heated water	Minimize the negative impacts to watershed quality from elevated effluent temperature	Reduce mean daily temperature of discharge water by 5°C by 2008.	Facility and design engineers reengineer operations to extract and reuse heat from wastewater (i.e. cogeneration).	Daily mean temperature of water discharge Watershed water quality parameters Number and diversity of fish/fauna species in watershed	Water quality sampling and analysis processes Fish/fauna sampling plan Cogeneration operational processes Engineering controls	Continuous monitoring of discharge temperature Quarterly monitoring of watershed water quality

Source: ISO 14004 Environmental management systems — General guidelines on implementation, ISO 14001 2015, pg. 53

Clause 6.3 - Planning of Changes

STEP 01 • TRIGGER

Need for Change

When there is a need for change within the organization or operational context.



Identification Phase

Recognizing internal or external drivers that necessitate modification.

STEP 02 • ACTION

Planned Implementation

Change needs to be managed, done in a planned manner.

Key Planning Considerations:

- Purpose of the change & potential consequences
- Integrity of the EMS
- Availability of necessary resources
- Allocation of responsibilities & authority

STEP 03 • OUTCOME

EMS Safeguarding

Ensures changes that **can affect EMS** preserve system integrity and performance.



System Continuity

Prevents unintended negative impacts on environmental objectives and compliance.

Auditing for Clause 6

CLAUSE 6.1.4

Risks & Opportunities

Verify systematic determination of risks and opportunities originating from organizational context (4.1), interested parties (4.2), and scope (4.3).

Audit Evidence Focus:

- **Adverse Risks:** Extreme weather, flooding, drought, or supply chain constraints.
- **Beneficial Opportunities:** Circular economy transitions, resource tracking, or biodiversity enhancements.

CLAUSE 6.2

Measurable Objectives

Ensure environmental objectives account for significant aspects, compliance obligations, and identified risks and opportunities.

Implementation Plans Must Include:

- Defined responsibilities & timelines
- Required resources & allocation
- Key Performance Indicators (KPIs)
- Integration into core business processes

NEW CLAUSE 6.3

Planning of Changes

Auditors must verify system modifications (internal/external, temporary/permanent) are executed in a planned manner.

Audit Evidence (Triggered Updates):

- Environmental aspect registers (6.1.2)
- Operational controls (8.1)
- Internal communications (7.4.2)
- Competence requirements (7.2)
- Internal audit programs (9.2.2)

CLAUSE 7 : SUPPORT

ISO 14001:2026 FRAMEWORK

Facilitation



Core Objective

Establishes the support such as training, people, systems to ensure EMS is effective.

7.1 Resources

7.2 Competence

7.3 Awareness

7.4 Communication

7.4.1
General

7.4.2
Internal communication

7.4.3
External communication

7.5 Documented information

7.5.1
General

7.5.2
Creating and updating

7.5.3
Control of documented information

Clause 7.1 – Resources

ISO 14001:2026 MANDATE

Core Requirement

Anticipate, determine and allocate the resources needed for creating, implementing and effective functioning of the EMS (including its operations and controls), as well as those needed for its ongoing maintenance and improvement.

Key Objectives:

- Establish & implement EMS
- Ensure operational control
- Sustain ongoing improvement



Technology & Financial

Financial backing, specialized software, IT systems, and technical solutions required for EMS operations.



Infrastructure

- Buildings & facilities
- Equipment & machinery
- Underground tanks & containment



Human Capital

- Human personnel
- Specialized skills
- Organizational knowledge



Natural Resources

Natural resource inputs, land, water, energy, and raw material allocations necessary for sustainability.



EXTERNAL SUPPLEMENTATION

Can be supplemented by external providers

Contractors, specialized consultants, and external service partners can fulfill resource gaps.

What are the Key Changes in Clause 7?

CLAUSE 7.4

External Communication Guidance

Annex A.7.4 highlights growing stakeholder demands for public disclosure of environmental and sustainability metrics.

Key Metrics Disclosures Highlighted:

- Carbon Footprints
- Water Footprints
- Resource Efficiency

CLAUSE 7.5

Documented Information

Standardizes requirement phrasing across the standard to establish clear, consistent expectations for EMS documentation.

Standardized Phrasing Framework:

"shall be available as documented information"

"shall be available as evidence of..."

Clause 7.2 – Competence

ISO 14001 FRAMEWORK

Competence Mandate

DEFINITION

Ability to apply knowledge and skills to achieve intended results.

Applicable Personnel ("Who?")

Person(s) doing work under the organization's control that affects its environmental performance.



1. Performance & Compliance Impact

Ensure work activities directly support environmental performance and fulfill all applicable compliance obligations.



2. Basis of Competence

Determine and ensure necessary competence on the basis of appropriate education, training, or practical experience.



3. Action & Evaluation

Identify training needs, take concrete actions to acquire required competence, and systematically evaluate action effectiveness.



SCOPE OF CONTROL

Work that is '**under the organization's control**' encompasses all work that takes place within the defined scope of the Environmental Management System (EMS).

Examples of competence needs related to environmental management

Potential areas of competence	Typical organisational roles	Examples of competencies/capabilities needed	Examples of the means for establishing competence
Environmental operations	Persons whose work activities involve significant environmental aspects	Awareness of how their work affects environmental performance Knowledge of operating criteria that needs to be met in order to minimize adverse environmental impact	Training on environmental impacts associated with their work Training on operating criteria to ensure processes are controlled
Environmental management systems	Audit programme managers	The ability to develop and manage audit programmes to determine the effectiveness of the organization's environmental management system	Programme management training Experience in programme implementation
	Top management	Knowledge and understanding of the implications of establishing and implementing an environmental policy Knowledge and understanding of resource availability and its application to an environmental management system, including the assignment of responsibilities and authorities	Training on environmental management systems and establishing environmental policy Experience in business management

Clause 7.3 – Awareness

ISO 14001 FRAMEWORK

Awareness Target

APPLICABLE PERSONNEL ("WHO?")

Person(s) doing work ***under its control**

KEY REQUIREMENT

Organizations must ensure all personnel performing work under their control are made aware of key environmental commitments and obligations.



1. Environmental Policy

Understanding the organization's policy commitments, goals, and environmental direction.



2. Significant Aspects

Awareness of significant environmental aspects and actual/potential impacts associated with work.



3. Contribution & Benefits

Contribution to EMS effectiveness and the tangible benefits of enhanced environmental performance.



4. Non-Conformity

Implications and risks of not conforming with environmental management system requirements.



SCOPE OF CONTROL

Work that is **'under the organization's control'** encompasses all personnel (employees, contractors, and external workers) operating within the defined EMS scope.

Clause 7.4 – Communication

ISO 14001 FRAMEWORK

Processes

TAKE INTO ACCOUNT

- **Compliance obligations**

KEY REQUIREMENT

Establish, implement, and maintain communication processes to handle internal and external information flow effectively.



External Communication

Communicate relevant environmental information externally as required by compliance obligations and organizational processes.



Internal Communication

Share information among various levels and functions of the organization to enable contribution to continual improvement.

OUTPUT CRITERIA

Information

✓ Consistent with EMS

Information generated must be consistent with data generated within the EMS.

✓ Reliable

Ensure environmental information communicated is accurate, trustworthy, and verifiable.



KEY COMMITMENTS & RESPONSIBILITIES

- Ensure communication enables contribution to **continual improvement** • **Communicate as planned** and respond to relevant communications

Clause 7.5 – Documented Information

ISO 14001 FRAMEWORK

General Requirement

CORE MANDATE

Create & maintain documented information

OBJECTIVE

Ensure organisations establish documented information in a manner sufficient for an adequate, suitable, and effective environmental management system.



1. "shall be available as documented information"

Refers to Documentation & Procedures

Means documentation other than records. Organisations shall make documented information available to the extent necessary to have confidence that the process(es) have been carried out as planned.



2. "documented information shall be available as evidence of"

Refers to Records & Evidence

Uses the phrase to mean records proving that results have been achieved or activities completed. The term "evidence" doesn't mean to meet legal evidentiary requirement, only to indicate objective evidence is retained.

CLAUSE 8 : OPERATION

ISO 14001:2026 FRAMEWORK

Control



CORE OBJECTIVE

Establishes the controls such as waste management, sustainable procurements and emergency response plan to ensure EMS is effective.



8.1 Operational planning and control

- Establish, implement, control and maintain operational processes to meet environmental management system requirements.
- Define operating criteria for key processes and implement controls in accordance with established criteria.
- Control and influence externally provided processes, products and services



8.2 Emergency preparedness and response

- Establish and maintain procedures to identify potential emergency situations and environmental accidents.
- Prepare planned responses to mitigate and prevent adverse environmental impacts.
- Periodically test, review, and update emergency response procedures and capabilities.

What are the Key Changes in Clause 8?

ISO 14001 FRAMEWORK

Key Revisions

OVERVIEW

Clause Revisions

Updated terminology and focus areas in operational execution to enhance clarity and consistency across environmental management standards.



Clause 8.1 (Operational Planning and Control)

Terminology & Change Control

- Replaces "outsourced processes" with "**externally provided process(es), products or services**".
- Emphasizes control over planned and unintended changes.



Clause 8.2 (Emergency Preparedness and Response)

Action Phrasing Update

- Adjusts phrasing to refer to **planned response action(s)**.

Clause 8.1 – Operational Planning and Control

ISO 14001 FRAMEWORK

Operational Planning

KEY DEFINITION

Operating Criteria

Specific limits, rules, or standards set by an organization to keep its day-to-day operations environmentally safe and compliant.



1. Process Execution & EMS Alignment

Establish, Implement, Control & Maintain

Establish, implement, control and maintain the processes needed to meet EMS requirements, and to implement the actions identified in 6.1 (Risks & Opportunities) and 6.2 (Environmental Objectives).



2. Operational Control & Criteria

Control in Accordance with Operating Criteria

Establish operating criteria for key operational processes and implement control of the processes in accordance with the established operating criteria to ensure consistent performance and compliance.

Clause 8.1 – Operational Planning and Control

EXAMPLES OF OPERATING CRITERIA BY CATEGORY



Waste Management

- Maximum storage time for scheduled waste on-site (e.g., ≤ 180 days).
- Mandatory waste segregation limits (e.g., 100% separation of chemical waste from municipal trash).



Chemical & Spill Handling

- Required secondary containment capacity (e.g., tanks hold $\geq 110\%$ liquid volume).
- Approved chemical labeling protocols and restricted inventory lists.



Emissions & Air Quality

- Maximum allowable stack gas emission concentrations (e.g., NOx or SOx ppm limits).
- Temperature thresholds for thermal oxidizers or pollution control scrubbers.



Water & Wastewater

- Permitted pH ranges for discharged wastewater (e.g., strict range between 6.0 and 9.0).
- Maximum COD or BOD limits before release into municipal systems.



Energy & Resource Use

- Maximum kilowatt-hour (kWh) per unit of production limits.
- Operational run-times or auto-shutoff criteria for heavy machinery to prevent idling waste.



Contractor & Supplier

- Required waste management licenses for external logistics.
- Third-party disposal provider compliance and monitoring criteria.

Clause 8.1 – Operational Planning and Control

INPUTS TO PROCESSES

Aspects

Significant environmental aspects

Compliance

Compliance obligations

Goals

Environmental objectives

Risk Management

Risks & opportunities that need to be addressed

OPERATIONAL CONTROLS

PROCESSES

Core Execution & Control Hub

✓ Operating criteria

✓ Procedures

✓ Operational controls

Change Management
Change - planned & unplanned

External Operations
Outsourced processes

HIERARCHY OF CONTROLS

Most Effective → Least Effective

01

Elimination

Physically remove the hazard

02

Substitution

Replace the hazard

03

Minimisation (3R)

Reduce, reuse, recycle

04

Treatment

Treat waste & emissions

05

Disposal

Safe final disposal

Clause 8.1 – Operational Planning and Control

PRACTICAL IMPLEMENTATION: PETROL CONSUMPTION FOR DRIVING TO CLIENT MEETINGS

01. METHOD OF CONTROL

Guidance

Choosing a method of control

Example

Reducing annual petrol consumption

02. OPERATING CRITERIA

Guidance

Selecting acceptable operating criteria (e.g., machine features, measurements, weight, temperature)

Example

- Number of carpooling effort
- % of reduction in petrol consumption annually

03. PROCESS ESTABLISHMENT

Guidance

Establishing processes to define how identified operations are planned, carried out, and controlled

Example

- Mileage claims
- Mileage monitoring

04. DOCUMENTATION

Guidance

Documenting processes in the form of instructions, signs, forms, videos, photos, etc.

Example

- Management review report
- Finance & Admin Report – billing, claim payment

Clause 8.1 – Operational Planning and Control

EXTERNALLY PROVIDED PROCESSES, PRODUCTS & SERVICES

PROCESSES • PRODUCTS • SERVICES

Externally Provided Control Scope

Type and degree of control or influence defined

Key Evaluation Factors Considered:

- Knowledge
- Competence
- Resources
- Impact on achieving intended outcomes
- Capability of general procurement process

FULFILLMENT CRITERIA (ALL 5 REQUIRED)

01. Scope Alignment

Within the scope of the environmental management system

02. Core Integration

Integral to the organization's functioning

03. Outcome Necessity

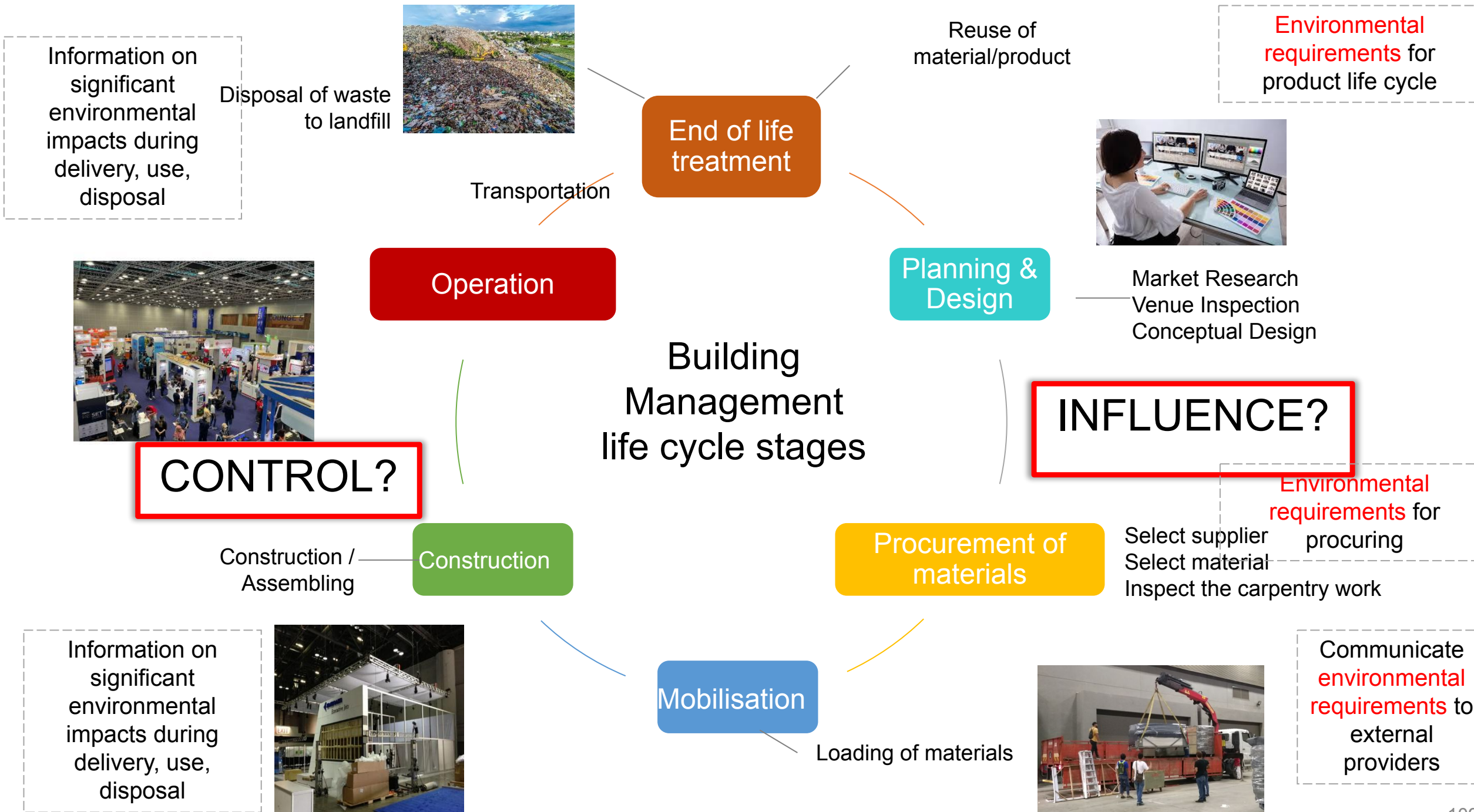
Needed for the environmental management system to achieve its intended outcome

04. Retained Liability

Liability for conforming to requirements is retained by the organization

05. Provider Perception

Organization and external provider relationship is perceived by interested parties as being carried out by the organization



Clause 8.2 – Emergency Preparedness and Responses

EMERGENCY PREPAREDNESS & RESPONSE ACTIONS

01. PREVENT & MITIGATE

Plan actions to prevent or mitigate adverse environmental impacts from emergency situations

02. ACTUAL RESPONSE

Respond to actual emergency situations promptly and effectively

03. CONSEQUENCE MANAGEMENT

Take action to prevent or mitigate consequences, considering the magnitude of the emergency and potential environmental impacts

04. PERIODIC TESTING

Periodically test response actions where practicable

PROCESSES & CONTINUOUS IMPROVEMENT

CORE REQUIREMENT

PREPARE FOR & RESPOND TO EMERGENCY SITUATIONS

Review & Revision

Periodically review and revise processes and planned response actions — especially after the occurrence of emergency situations or tests.

Information & Training

Provide relevant information and training regarding emergency preparedness and response to relevant interested parties.

Clause 8.2 – Emergency Preparedness and Responses

Examples of Environmental Emergencies and Responses

Oil Spills

Example: Large maritime or pipeline releases of crude oil into oceans or rivers.

Response: Deploying floating containment booms, using vacuum extraction systems, applying water-safe absorbents, and cleaning affected shorelines.

Hazardous Chemical Leaks

Example: Industrial plant explosions, overturned chemical transport trucks, or leaking toxic storage drums releasing poisonous gases into the air or soil.

Response: Establishing hot, warm, and cold safety zones, wearing specialized protective gear (such as Level A fully encapsulated suits), neutralizing chemicals, and air monitoring.

Natural Disasters and Flooding

Example: Severe storms, hurricanes, or tsunamis that damage infrastructure and contaminate local water supplies with sewage or debris.

Response: Conducting rapid environmental assessments, managing disaster waste, collecting hazardous debris, and testing water quality.

Industrial Fires and Toxic Smoke

Example: Large manufacturing or waste-site fires releasing heavy smoke, asbestos, or lead particles.

Response: Atmospheric dispersion modeling, utilizing specialized firefighting foams, water runoff containment, and ordering temporary community evacuations.

Auditing for Clause 8

Externally Provided Processes (Clause 8.1)

Note the removal of the standalone verb "outsource" in favor of **"externally provided processes, products or services"**.

Audit Evidence

Assess whether the **type and extent of control or influence** applied to suppliers and contractors is proportional to aspect significance, risk exposure, and legal obligations.

Life Cycle Controls

Verify operational controls across life cycle stages—including procurement criteria, design/development considerations, contractor communications, and downstream handling/disposal information.

Emergency Readiness (Clause 8.2)

Inspect documented processes for planned response actions, periodic testing/drills, post-emergency reviews, and training.

CLAUSE 9 : PERFORMANCE EVALUATION

ISO 14001:2026 FRAMEWORK

Evaluation



CORE OBJECTIVE

Establishes the monitoring, measurement and review process to ensure EMS is effective.

9.1 Monitoring, Measurement, Analysis and Evaluation

9.1.1 General

Determine parameters, methods, criteria, and evaluation schedule for EMS performance.

9.1.2 Evaluation of Compliance

Establish and maintain processes to evaluate fulfillment of compliance obligations.

9.2 Internal Audit

Conduct internal audits at planned intervals to ensure the EMS conforms to organization requirements and ISO 14001 standards.

9.3 Management Review

Top management must review the organization's environmental management system to ensure its continuing suitability, adequacy, and effectiveness.

What are the Key Changes in Clause 9?

STRUCTURAL REVISION

Clause 9.3 (Management Review Restructuring)

ISO 14001:2015 contained Clause 9.3 as a single section. ISO 14001:2026 divides Management Review into three explicit subclauses:

9.3.1

General

Establishes the foundational requirement for top management to review the organization's environmental management system at planned intervals.

9.3.2

Management review inputs

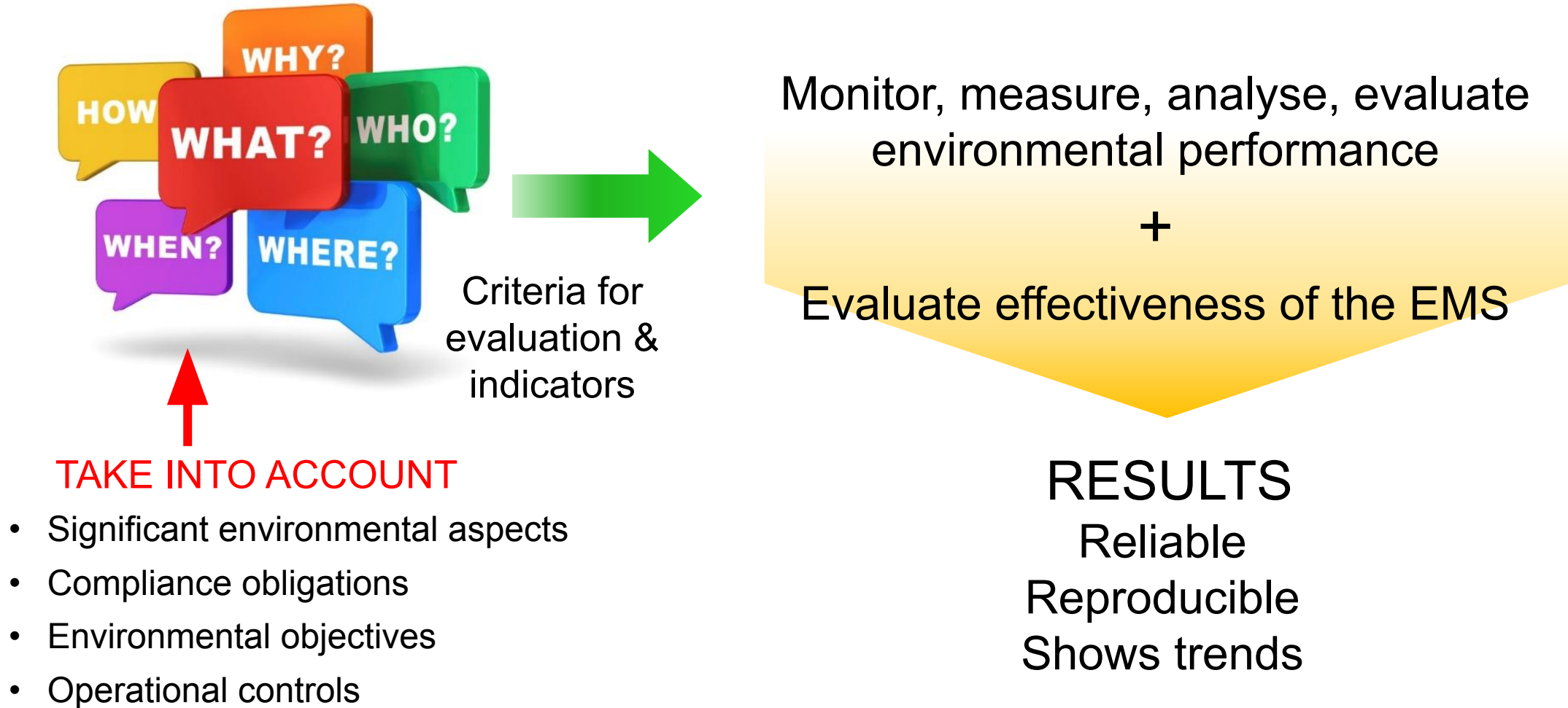
Specifies mandatory information, environmental performance data, status of actions, and changing risks/opportunities to be considered during the review.

9.3.3

Management review results

Focuses on decisions and outputs related to EMS suitability, continual improvement opportunities, resource needs, and required system changes.

Clause 9.1.1 – General



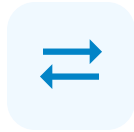
Clause 9.1.1 – General

Monitoring



EMS OVERVIEW

effectiveness of the EMS in meeting its intended outcomes



PROCESS CONTROL

effectiveness of established processes

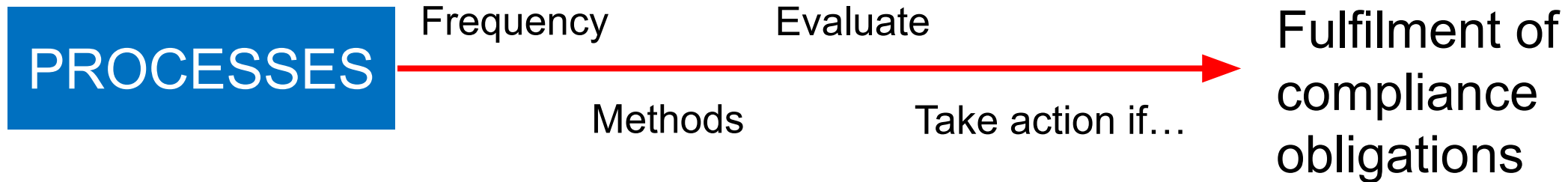


GOAL DELIVERY

achievement of intended outcomes

Clause 9.1.2 – Evaluation of Compliance

To evaluate the extent to which the organization's compliance obligations are fulfilled, by monitoring, measuring, analysing and reviewing its performance against its compliance obligations.



Clause 9.2 – Internal Audit

Programme Intent



AUDIT PROGRAMME

Plan, implement & maintain

Establish an ongoing internal audit programme to systematically review organizational processes.



CONFORMANCE

Check EMS requirements

Verify conformance to both standard requirements and additional self-imposed EMS requirements.



EFFECTIVENESS

Ensure execution as planned

Confirm that the EMS is effectively implemented and continuously maintained as planned.

Internal audit programme

Environmental importance
of processes

Changes affecting the
organisation

Results of previous audits

CONSIDER

Results
reported



Relevant
management



Clause 9.3 – Management Review

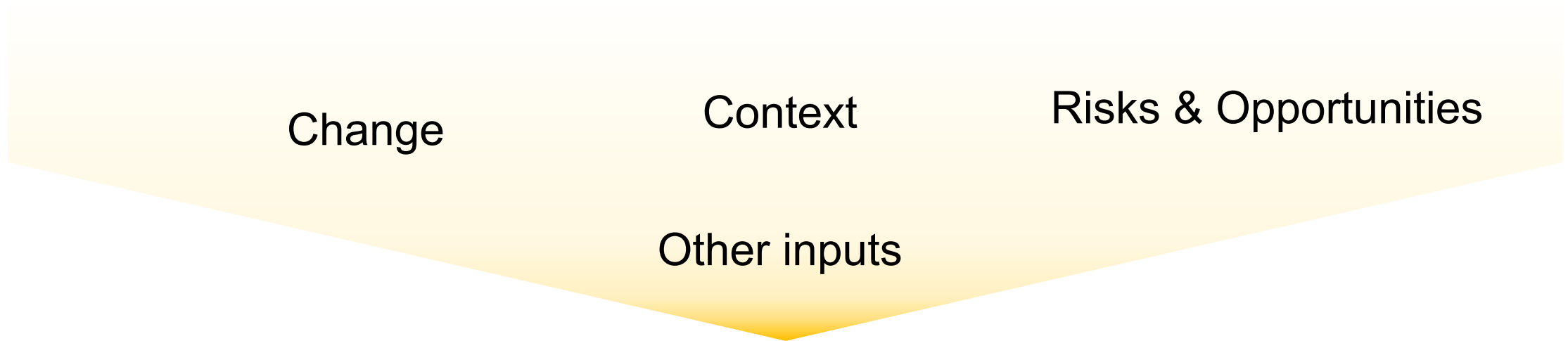
Review the EMS and make conclusions on its **suitability, adequacy, effectiveness**

'Suitability' refers to how it "fits" the organization, its operations, culture and business systems

'Adequacy' of the environmental management system refers to it meeting the requirements of this International Standard and being implemented appropriately

'Effectiveness' refers to whether it is achieving the desired results

Clause 9.3 – Management Review



- ✓ opportunities to improve integration of the EMS with other business processes
- ✓ any implications for the strategic direction of the organisation
- ✓ resources, improvement actions, conclusion on the EMS

Auditing for Clause 9

CLAUSE 9.1.2 & 9.2

Compliance Evaluation

Must inspect documented evidence verifying that legal and voluntary obligations are periodically evaluated.

Evaluation Methods:

- Lab test comparisons
- Site inspections
- Waste manifests

CRITICAL AUDIT NOTE

Internal audits alone cannot demonstrate legal compliance.

CLAUSE 9.2

Internal Audits

Systematic verification of EMS implementation and auditor impartiality.

1. Auditor Objectivity

Verify complete objectivity and impartiality of the audit team.

2. Schedule Factors

Confirm audit schedules account for:

- Process importance
- Organizational changes
- Past audit performance

CLAUSE 9.3

Management Review

Confirm reviews strictly adhere to required subclauses:

9.3.1 General • 9.3.2 Inputs • 9.3.3 Outputs

REQUIRED REVIEW OUTPUTS

Explicit conclusions on system:

- Suitability
- Adequacy
- Effectiveness

Includes resource allocation & strategic direction changes.

CLAUSE 10 : IMPROVEMENT

ISO 14001:2026 FRAMEWORK

Improvement



CORE OBJECTIVE

Establishes the improvement process to ensure EMS is effective.

10.1 General

10.2 Nonconformity and corrective action

What are the Key Changes in Clause 10?

PREVIOUS STRUCTURE

ISO 14001:2015

Three subclauses starting with introductory general clause.

10.1 General

Introductory section

10.2 Nonconformity and corrective action

10.3 Continual improvement

REVISED STRUCTURE

ISO 14001:2026

Reordered directly into core actionable subclauses.

10.1 Continual improvement

Promoted to primary subclause

10.2 Nonconformity and corrective action

Key Change:

Standalone "10.1 General" header removed entirely.

SUMMARY OF CHANGES

Key Takeaways

01. Subclause Reordering

ISO 14001:2026 reorders Clause 10 directly into **10.1 Continual improvement**.

02. Removal of "10.1 General"

Eliminates the standalone "10.1 General" header present in the 2015 edition for a leaner, more direct standard.

03. Immediate Focus

Places continual improvement at the forefront of management system outcomes.

Clause 10.1 – Continual Improvement

CORE OBJECTIVE

Improve the EMS to enhance environmental performance.

Management review drives continual refinement and strategic alignment across all environmental systems.

IMPROVEMENT FOCUS AREAS

01

Suitability

Ensures the Environmental Management System aligns with organizational context, operational changes, and strategic direction.

- Strategic Context Alignment

02

Adequacy

Confirms that adequate resources, capabilities, infrastructure, and organizational support are consistently available.

- Resource Sufficiency

03

Effectiveness

Verifies that the system achieves intended outcomes and continuously enhances environmental performance metrics.

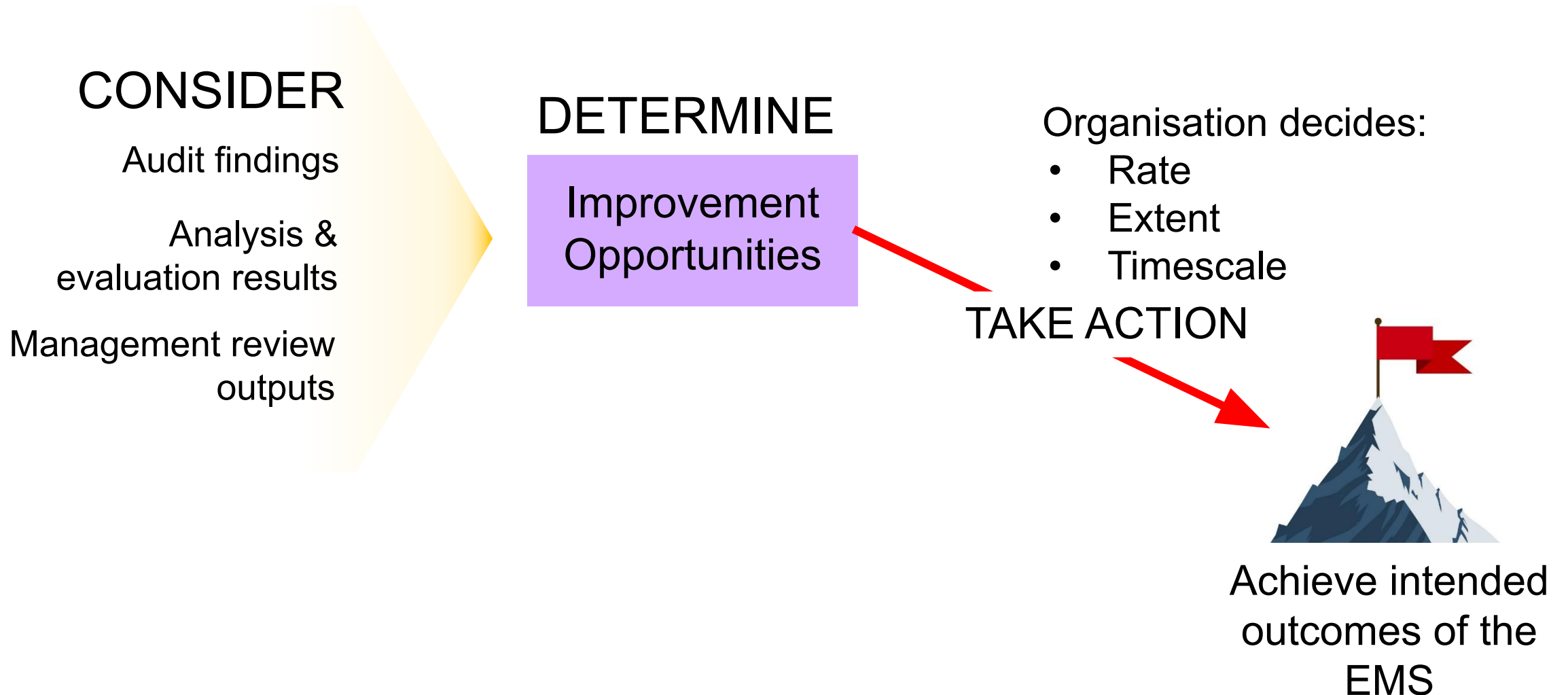
- Performance Outcomes

Clause 10.1 – Continual Improvement

Enhancement of environmental performance

- An expectation is that the organisation will enhance its *environmental performance* and be able to demonstrate it.
- Enhancement of environmental performance must be one of the intended outcomes of the EMS and continual improvement activities must be directed at enhancing the organisations environmental performance.

Clause 10.1 – Continual Improvement



Clause 10.2 – Nonconformity and Corrective Action

Responding when requirements are not satisfied



Take action to correct the situation



Examine the cause and determine if other occurrences exist or potentially exist elsewhere so that action can be taken to prevent reoccurrence



Evaluate of the action taken to confirm that the intended result was achieved



Evaluate the EMS to determine if changes are warranted to avoid future occurrences of similar nonconformities

***Nonconformity** – Non-fulfilment of a requirement. Relates to requirements in this Standard and additional EMS requirements that an organization establishes for itself.

Auditing for Clause 10

1. Structure (Clauses 10.1 & 10.2)

Note that Clause 10 orders **10.1 Continual improvement** before **10.2 Nonconformity and corrective action**.

2. 5-Step Corrective Action Protocol (Clause 10.2) — Execute full sequence when nonconformities occur:



3. Mandatory Records

Verify documented evidence is retained for both:

- **Nature of nonconformities**
- **Evaluated results / effectiveness** of corrective action

Questions

THANK YOU