

# A Step-by-step Guide to Implementing an ISO 14001 Compliant EMS

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Date: August 2018



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ISO 14001 is the international standard defining the requirements for environmental management systems (EMS). To comply with the ISO 14001 Standard, businesses should follow a strategic, orderly and continual environmental management process which correctly identifies environmental interactions ('aspects') and evaluates potential consequences ('impacts') related to all business ventures. While the potential benefits of an EMS can be very positive for a company, successful implementation requires a plethora of elements to come together, including commitment from senior management, clear communication, implementation and documentation control. Some of the key steps for the successful implementation of an EMS are laid out in this document.

## What is an EMS?

An EMS is a system used to manage environmental aspects, fulfil compliance obligations, address risks and opportunities. The core objective is to promote effective environmental management procedures that are cost effective, systems-based, adaptable and reflect industry best practice.

## Why Implement an EMS?

The implementation of an EMS can be very beneficial to businesses of all types and sizes. Benefits include:

- **Reduce costs** by managing resource use and waste.
- **Reduce business risk** by establishing legal obligations, managing environmental and employee risks.
- **Empower employees** by allocating responsibilities, feedback and training opportunities.
- **Improve environmental performance** by mitigating significant environmental aspects.
- **Increase your competitive edge** by reducing costs, using efficient procedures, gaining access to new markets and gaining an advantage over competitors during the bidding process.
- **Improve company reputation** through strategic environmental communication and employee empowerment.
- **Ensure regulatory compliance** by keeping up-to-date with legislative changes as demonstrated through regular audits.

## EMS Implementation Process

The Plan-Do-Check-Act (PDCA) cycle is facilitated by the step-by-step procedure shown in **Figure 1**. Following this iterative methodology facilitates continual improvement of environmental performance, while meeting ISO 14001 requirements.



**Figure 1.** 14 stages for the successful implementation of an ISO certified EMS

## 1. Planning

To plan and development an EMS, you need to have support and commitment from senior management. Once this is established, you must define and justify the scope of the EMS by having a complete understanding of company operations, products and services. At this stage, it can be useful to conduct a benchmarking exercise to understand how industry leaders approach environmental management (accreditations, key initiatives, environmental and sustainability documents, objectives, targets, etc). The information collected during this exercise can be used to establish clear goals for your company, which are aligned with the ISO 14001 standard.

## 2. Environmental Aspects and Impacts

An inventory of environmental aspects ('interactions') and impacts ('consequences') that relate to all activities (within the EMS scope) should be established and kept in a register. The inventory must include aspects/impacts under normal, abnormal/accidental, and emergency conditions (Table 1). Organisational aspects are often easier to identify when categorised into themes, e.g. resource use.

**Table 1.** Examples of environmental themes, aspects and impacts.

Theme	Aspect	Impact
Energy use	Use of low-carbon energy supplies	Reduced consumption of fossil fuels/pollution and mitigating climate change
Waste	Food waste generation and disposal	Nuisance litter, vector (rodent) management

## 3. Significance Evaluation

Significance evaluation is required to identify, manage and assess environmental risks and opportunities. The significance of each environmental aspect identified in Step 2 should be evaluated using a risk matrix. Several types and complexity levels of risk matrices can be used depending on the company's preferences and pre-established systems. An example of a simple risk and opportunity matrix is provided in Table 2. For a more comprehensive risk matrix, the magnitude of impact could be separated into the type of impact, such as financial, environmental, social, company reputation, etc. The risk matrix should be adaptable, but usually, multiplication of the likelihood and magnitude of impact is used and significance denoted by a threshold value. Significant aspects must then be addressed as a priority.

**Table 2.** Examples risk and opportunity matrix. Significance deemed at  $\pm 4$ .

Probability	Magnitude of Impact					
	Large (-3)	Medium (-2)	Small (-1)	Small (1)	Medium (2)	Large (3)
1 - Unlikely	-3	-2	-1	1	2	3
2 - Likely	-6	-4	-2	2	4	6
3 - Very likely	-9	-6	-3	3	6	9

#### 4. Environmental Policy

Using the information gathered from Steps 1 to 3, an Environmental Policy Statement (EPS) that demonstrates ISO 14001 compliance (continual improvement, risk management and leadership) should be drafted. The EPS details organisational commitments, so companies should ensure they are realistic given technical, financial and operational constraints. The preparation of the EPS is a great opportunity for companies to go beyond compliance with the standard and demonstrate leadership by sharing their vision and principles on environmental management and sustainability. Once drafted, the EPS should be approved by senior management and signed off by the CEO.

#### 5. Compliance Obligations

Regulatory compliance is a core requirement of the ISO 14001 standard. An inventory of all legal requirements and other obligations which apply to company activities must be kept and maintained up to date. The key themes identified in the Register of Environmental Aspects can be useful for establishing likely obligations by providing key search terms. It is often useful to separate the legal from other obligations (such as accreditations, international standards and guidance).

#### 6. Objectives and Targets

It is important to establish SMART objectives to mitigate any significant environmental aspects. Specifically, this means objectives should be: **S**pecific, **M**easurable, **A**chievable, **R**ealistic, and **T**ime bound. Setting quantitative targets (e.g. 50% reduction by 2020) related to each of the established objectives allows organisations to easily measure progress while increasing the success rate.

**Example poor objective:** 'reduce employee transport emissions'.

**Example SMART objective with target:** 'reduce annual employee transport emissions by 50% from the 2015 level by 2020'.

Objectives and targets should be set alongside key actions and measurement methods. Using the example above, key actions may be, the implementation of car sharing program and use of cycle to work initiatives. These actions can be monitored via regular Employee Transport Survey and carbon footprint assessments.

#### 7. Resources and Responsibilities.

Secure the resources necessary to achieve objectives and targets and for successful EMS implementation (Figure 2). You should motivate staff and encourage involvement through awareness training, the allocation of responsibilities and incentives.



**Figure 2.** Examples of EMS Resources

## 8. Communication

The EPS should be made available online and paper copies should be visible in communal areas to act as daily reminders of the environmental commitments and objectives. There should also be procedures for communicating key roles and responsibilities to employees (e.g. presentation, email, in person) and methods for promoting environmental awareness internally and externally (stakeholders, partners, suppliers). ISO 14001 knowledge should be shared within the company, and staff should be encouraged to train as internal auditors so they can actively participate in the process.

## 9. Documentation and Control

All necessary and supporting documentation to establish an evidence base for auditing the EMS should be collected and kept for a predetermined period of time (e.g. 3 years). Furthermore, each document should be assigned unique identifiers and adequate version control should be implemented to prevent outdated copies being used by mistake.

## 10. Operational Control

Ensure that all operations and activities associated with the significant aspects are properly controlled and that procedures are communicated to affected personnel.

## 11. Emergency Planning

Health and safety procedures should be established and kept up to date. Regular checks of emergency planning operations should be conducted. Adequate training for specialist operations such as handling of chemicals should be implemented and documented.

- Supply risk assessments, health and safety guidelines, procedure guidelines as appropriate.

## 12. Performance Monitoring

To demonstrate continual improvement, get internal (employee) and external (customer/supplier) feedback on the EMS and compare objectives and targets with the EMS outcomes. Conduct an Internal Audit procedure, which documents findings in a logical manner. This can be done using an internal audit checklist. Key findings of the audit can then be written-up formally in a report, which should include documentation of any nonconformities.

## 13. Nonconformities

Correct any system nonconformities raised by employees/audit/external parties and establish why they occurred. Document corrective action and monitor that the actions address the nonconformities.

## 14. Management Review

Finally, a review meeting involving parties such as environmental managers and directors should be conducted to achieve the following:

- Review audit results and nonconformities
- Review objectives, targets, scope of EMS
- Amend EPS commitments, as required

Following this management review, a corrective action report (CAR) should be prepared to outline subsequent actions to be taken.