



business optimization

WHITE PAPER

# **A Guide to ISO 14000**

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*Executive Summary – Governmental agencies and major corporations are increasing their emphasis on “green initiatives” through which companies commit to lessen their impact on the environment and implement actions to carry out their plans. ISO 14001 is the most widely recognized environmental standard and implementing it will provide your company with tremendous credibility and significant cost benefit.*

## **BACKGROUND**

What is ISO 14000? ISO 14000 is a family of environmental standards and guidance documents designed to help companies develop and maintain an Environmental Management System. ISO 14001 contains the Environmental Management System requirements. ISO 14001 was first released in 1996 and was revised in 2004.

## **WHY ISO 14001?**

Why is certifying your company to ISO 14001 important? Governmental agencies and major corporations are increasing their emphasis on “green initiatives” through which companies commit to lessen the impact on the environment and implement actions to carry out their plans. ISO 14001 is the most widely recognized environmental standard. Certification lends credence to a company’s claim that they are environmentally friendly and that their products and services are not going to be hazardous. In addition, because the standard is based on the Plan, Do, Check, and Act model that requires certain activities, such as a documented policy, documented procedures, and auditing by an independent third party, ISO 14001 provides assurance to customers, management, and other stakeholders that the company is actually making a commitment to the environment and living up to it.

## **BENEFITS TO CERTIFYING TO ISO 14001**

In addition to the credibility listed in the previous paragraph here are some specific benefits of certifying to ISO 14001:

- Reduces energy and material costs
- Reduces pollutant and waste output
- Helps to prevent environmental accidents and reduces risks of legal liabilities
- Improves the company's financial standing and supports sustainable development
- Compliance with local environmental regulations and adaptability with their future development
- Improves the company’s image among regulators, customers, and the public
- Improves management effectiveness through continuous improvement

## IMPLEMENTING ISO 14001

The overarching approach to developing and maintaining an environmental management system is to use the Plan, Do, Check and Act methodology. This allows a systematic way of understanding the environmental impacts produced by the company and to act in specific, measurable ways to mitigate them. The main elements of ISO 14001 are an Environmental Policy, planning, implementation, corrective action, and management review.

What is the basic process for implementing ISO 14001? Here is a simple model you can use to implement the system:

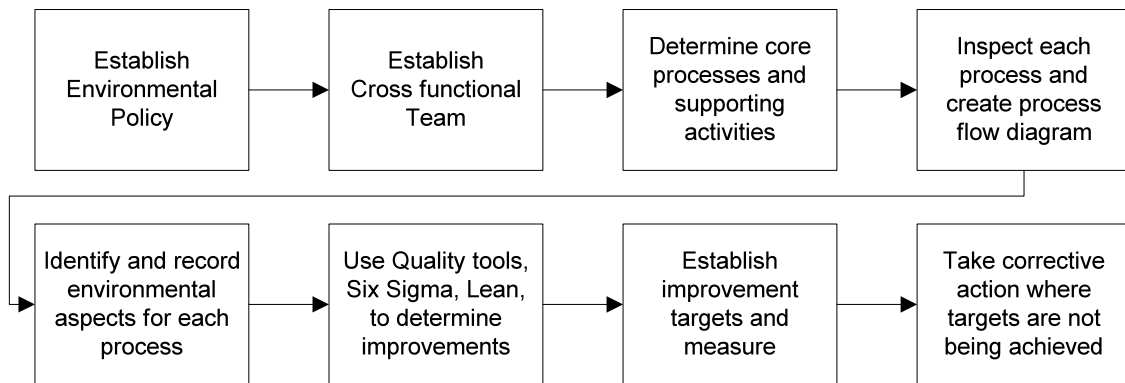


Figure One – Process Model for ISO 14001 Implementation

Here are the key steps to implementing the policy.

- Develop an environmental policy for your organization that makes it clear that you as top management support the establishment of an Environmental Management System (EMS) and that you are committed to protecting the environment and improving your organization's environmental performance.
- Identify the most significant aspects of your organization's past, present, and future activities, products, and services. An environmental aspect is any feature or characteristic of an activity, product, or service that has or could have an impact on the environment. Why would you include past products? We know more today about certain elements such as mercury, lead and other contaminants contained in products. While they are for the most part no longer permitted to be used, you may have products in service that contain them. How will you notify customers and other stakeholders? Table A below lists some examples of environmental aspects and their potential impact.

Aspect	Impact
Emissions of volatile organic compounds (VOCs)	Air pollution
Discharges to streams, rivers	Degradation of aquatic habitat, drinking water
Spills, leaks	Soil and groundwater contamination
Use of recycled paper	Conservation of natural resources

Table A. – Environmental Aspects

- Enlist the aid of others in the company, process owners that would know what impact their processes have on the environment. Establish a cross functional team of process owners and map your core processes with the idea of identifying environmental aspects produced by each process.
- Make sure that your environmental management system (EMS) includes all necessary elements; your environmental policy, objectives for improvement, responsibilities, authorities, relationships, functions, processes, practices, procedures, and resources. Also, make sure you survey local, state or provincial and national environmental regulations. A sample of an environmental policy might look like this:

“Total Company commits to ensure that it minimizes the impact of its products and services on the environment by evaluating such impacts and taking measurable action to remove or mitigate them.”

- Set environmental objectives and targets for your company based on what you have committed to do in your environmental policy and the environmental aspects that you have defined. How might this be done? Looking back at the discussion of aspects and associated table, it would be easy to add a column or two that would help identify measurements and targets. Let’s look at the last aspect identified in Table A “use of recycled paper.” In table B below we add the processes that might influence this measurement, and the measurement itself, ‘percent of recycled paper used each month in pounds or kilograms.’ Then we set a target of 80%

Aspect	Influential Processes	Measurement	Target
Use of recycled paper	Purchasing and Administration	Percent of recycled paper total paper consumed each month, in lbs, or kilos	80%

Table B- Environmental Objectives

The target is somewhat arbitrary in our example but should be based on where you are now, and where you are willing to commit to go. So if you determine you are currently using 10% recycled paper and we want to move the number to 80% then set the goal to 80%. The number should represent your commitment.

- Create programs to implement your environmental policy and achieve your environmental objectives and targets. Make sure that your program allocates responsibility for implementing your environmental policy and achieving your environmental objectives and targets.
- Evaluate results and take corrective action where necessary. You do this to improve your overall environmental performance. You should also regularly review your environmental policy to ensure that it continues to be appropriate, is being applied, and that your environmental objectives and targets are being achieved. Management should also review the system periodically at a high level to ensure that the policy and objectives are being carried out.

## **GETTING ROI FROM ISO 14001**

Cost Reduction - Calculating ROI in terms of cost reduction should not be difficult. In our previous environmental aspect example we said our objective is to raise the use of recycled paper to 80%. Now let's look at the savings. Non recycled paper costs \$10.00 per ream. Throughout the company we use 1000 reams per month for a total cost of \$10,000 per month. Recycled paper costs \$3.00 per ream. By increasing our use to 80% recycled paper we use 80% of the previous total of 1000 reams, or 800 recycled reams at a total cost of \$2,400. Add in the remaining 200 non recycled reams (to compare apples to apples) costing \$2,000.00 our new total cost is \$4,400.00 a fifty percent savings.

Lessening the impact on the environment in terms of clean up and other costs can be estimated in the same way. Cost avoidance because the company has not been involved in legal action is hard to estimate but a definite benefit.

## **GETTING HELP**

### **Government and Private Organizations**

As I mentioned earlier, you need to pay attention to the various environmental regulations for your local and national jurisdictions. There are a variety of resources available to help organizations understand the regulations and create environmental management systems based on ISO 14001. One of the main sites in North America is the Environmental Protection Agency (<http://www.epa.gov>). For European regulations you can download the Handbook to Implementing EU Environmental Regulations by going to <http://ec.europa.eu/environment>. Check within your state, provincial and national governmental agencies for similar sites.

## Consulting

Consultants can bring tremendous value by helping companies plan, develop, inspect, and manage an environmental management system while sustaining focus on their core business. A consultant also offers the advantages of objectivity and specific expertise through the various stages of planning and implementation.

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