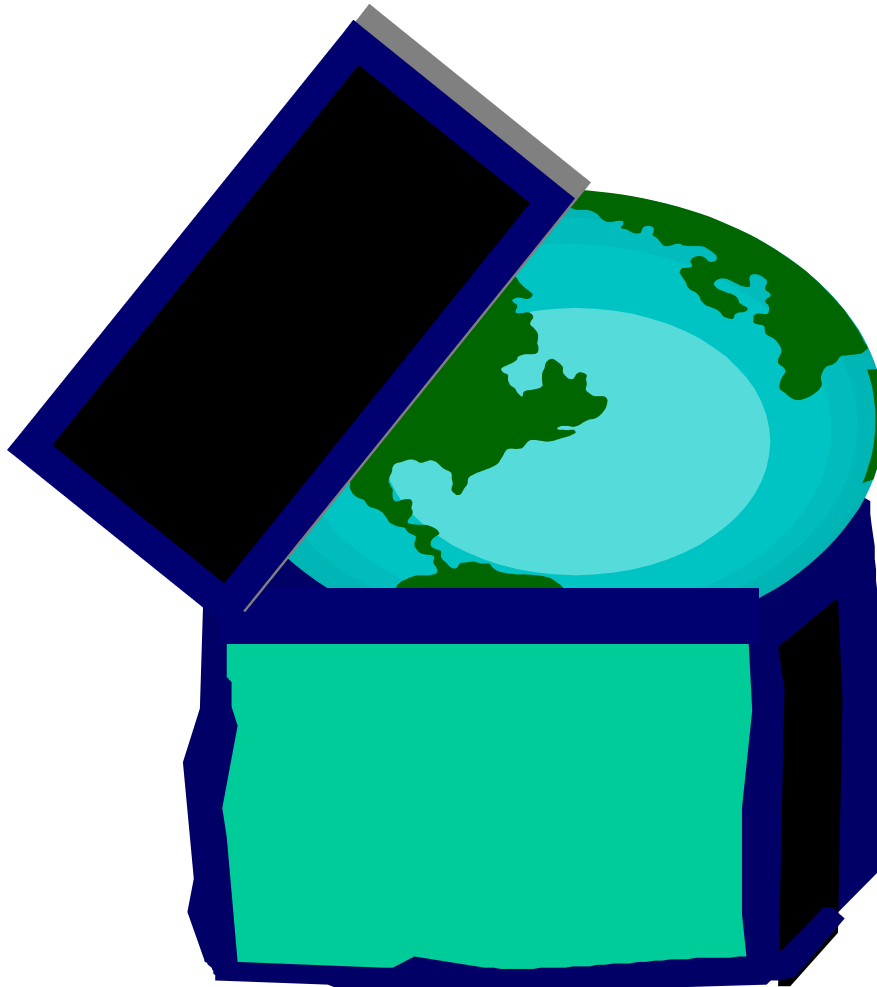


E2M

# Building a Better Global Box

A Lesson in the Geometry of EMS/ISO 14001



An introduction to a better business tool: environmental management systems and the international standard ISO 14001.

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*Connecting you to a growing green global marketplace*

By Lynn Johansson©2000

# Building a Better Global Box

## A Lesson in the Geometry of EMS/ISO 14001

The trend in business today is towards longer-term relationships with fewer, responsibly managed suppliers who can deliver high value, low risk product and service, just-in-time, from anywhere in the world. Directly or indirectly your company is part of a global marketplace with growing green expectations. Increasingly, how well your company manages the environment is playing a part in decisions made by other organizations.

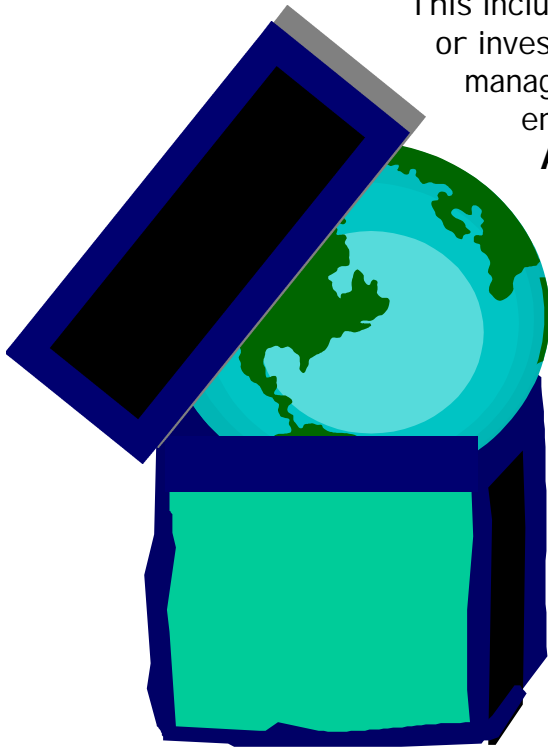
This includes decisions affecting purchases from, loans to, insurance availability and rates, or investments in your company. ISO 14001 is an accepted international approach for managing environmental issues as part of normal business processes. ISO 14001 is an environmental management systems standard by which your organization will be judged.

### Are you ready?

Many people are finding ISO 14001 difficult to implement. It is not that the requirements are difficult; it is the way in which the standard was written that seems to be causing confusion. This booklet was written to provide you with a clearer picture of the standard, using the assembly of a box as an analogy.

Let's begin. ISO 14001 uses « **how** » terminology that comes from quality management, specifically the quality process of « **Plan, Do, Check, Act** », often referred to as the PDCA cycle. Added to the PDCA cycle is an **environmental policy**. Together these five elements are used to describe « **what** » ISO 14001 entails - these are the five key requirements in an Environmental Management System, an « **EMS** ».

Under each of the key requirements there are specific issues or activities that you need to address to make your management system deliver the results you want. ISO 14001 was designed to be very flexible so that an organization, of any size, from any sector, in any geographic location, could use it. For some, flexibility means that they have to make more decisions than they are comfortable with. This booklet provides you with one approach. However, you will still have to make decisions on your own to ensure that your EMS meets your specific business needs. Read through the entire booklet before forming your opinion on the benefits of an EMS.



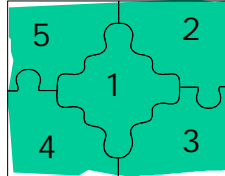
ISO refers to the  
International Organization  
for Standardization

Why the box analogy? It 's a common object. Everyone, anywhere you go in the world, understands what a box is. Boxes have six surfaces: four sides, a top and a bottom.

To construct the box and solve the EMS-analogy puzzle, you need to address six questions. Just like reading the instructions helps to assemble the box, these questions will help you to assemble the pieces of the puzzle that will simplify the process of implementing an EMS.

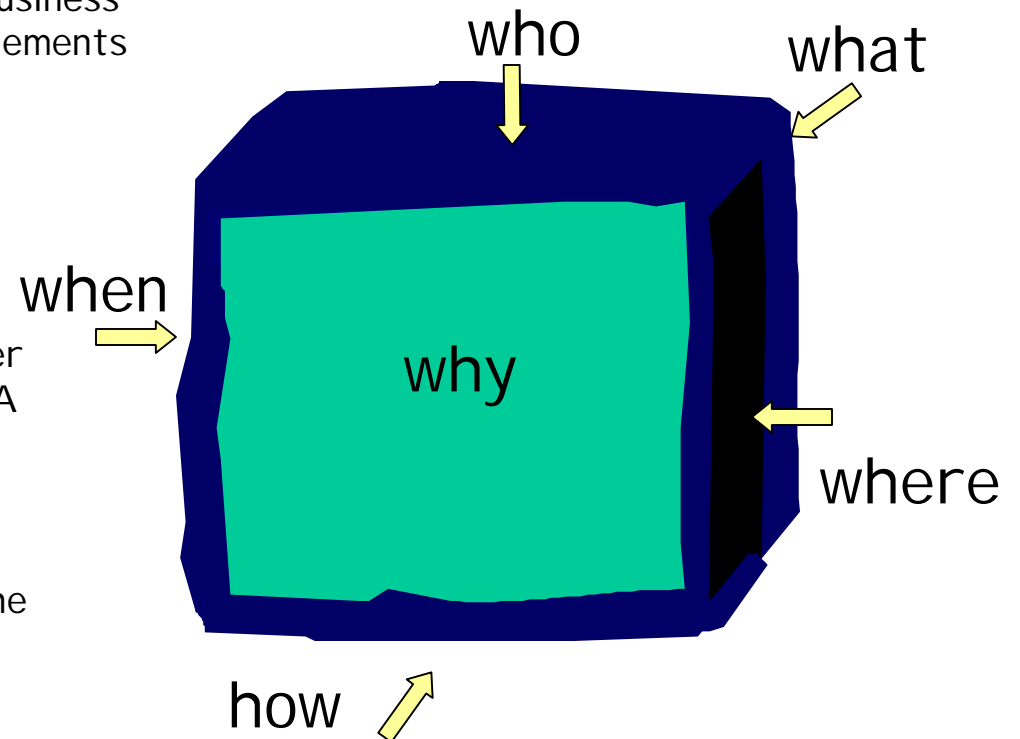
Applying the logic of « **first-things-first** » helps to unravel the instructions of how to assemble an EMS.

Each surface of the box addresses one of these questions and then uses a puzzle to share the business considerations or show the breakdown or sub-elements of an EMS. Start with the centre puzzle piece on each surface and then read the puzzle pieces clockwise.



The other tools that you will need to assemble the box include a copy of ISO 14001, some paper and a pencil, or a computer to record notes on. A cup of coffee or tea is not a requirement but this booklet is designed to let you read through it in the time it takes to drink one or two cups.

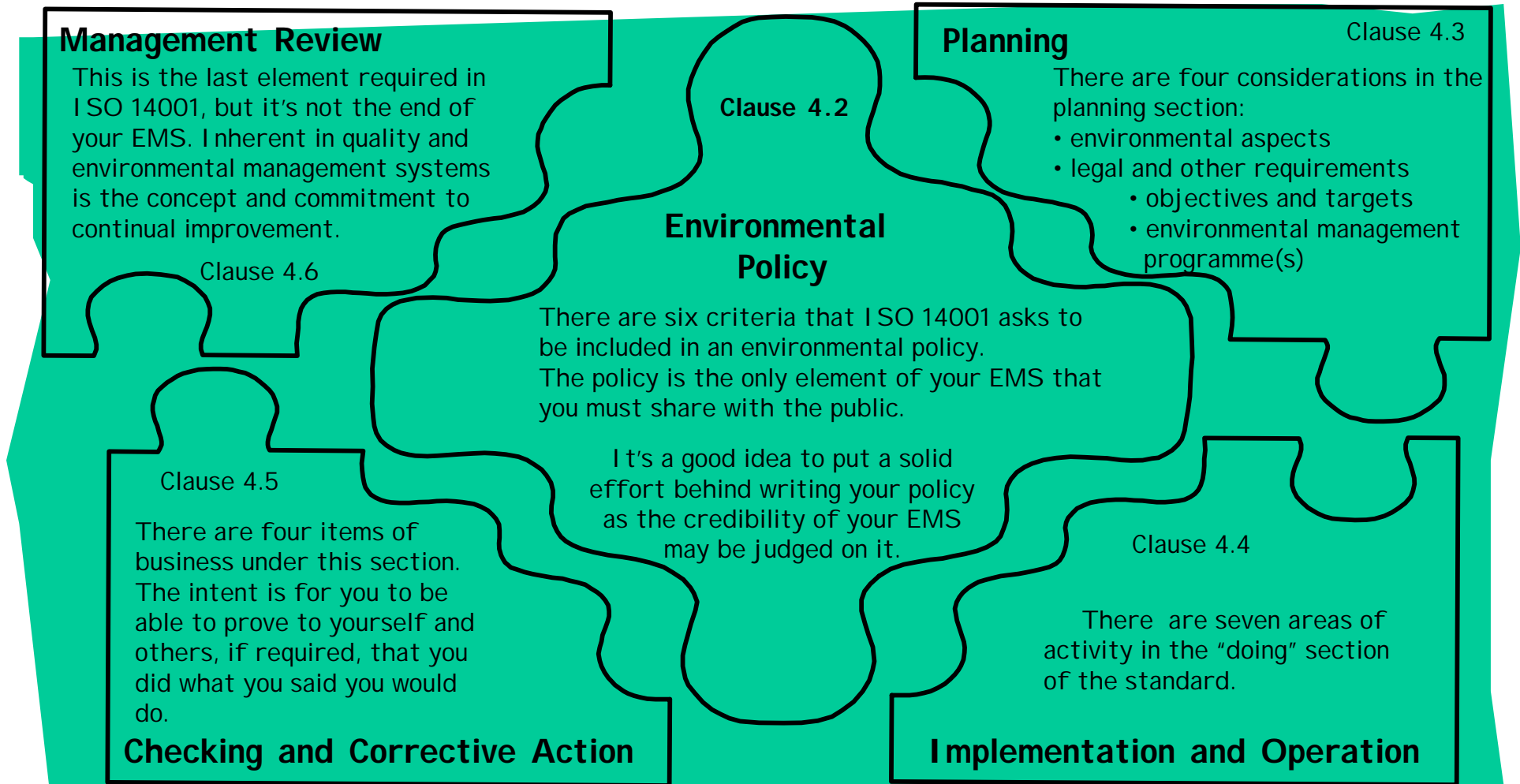
Now, the six questions that will help you with the EMS puzzle analogy are: **who, what, where, when, how and why?**



## Let's start building the box by looking at the « what » side.

What's in ISO 14001? There are five key elements listed in Clause 4.0; Clause 4.1 explains that they are requirements of the standard. This is the easiest surface to understand. Companies may emphasize the elements differently, according to their own situation.

# What

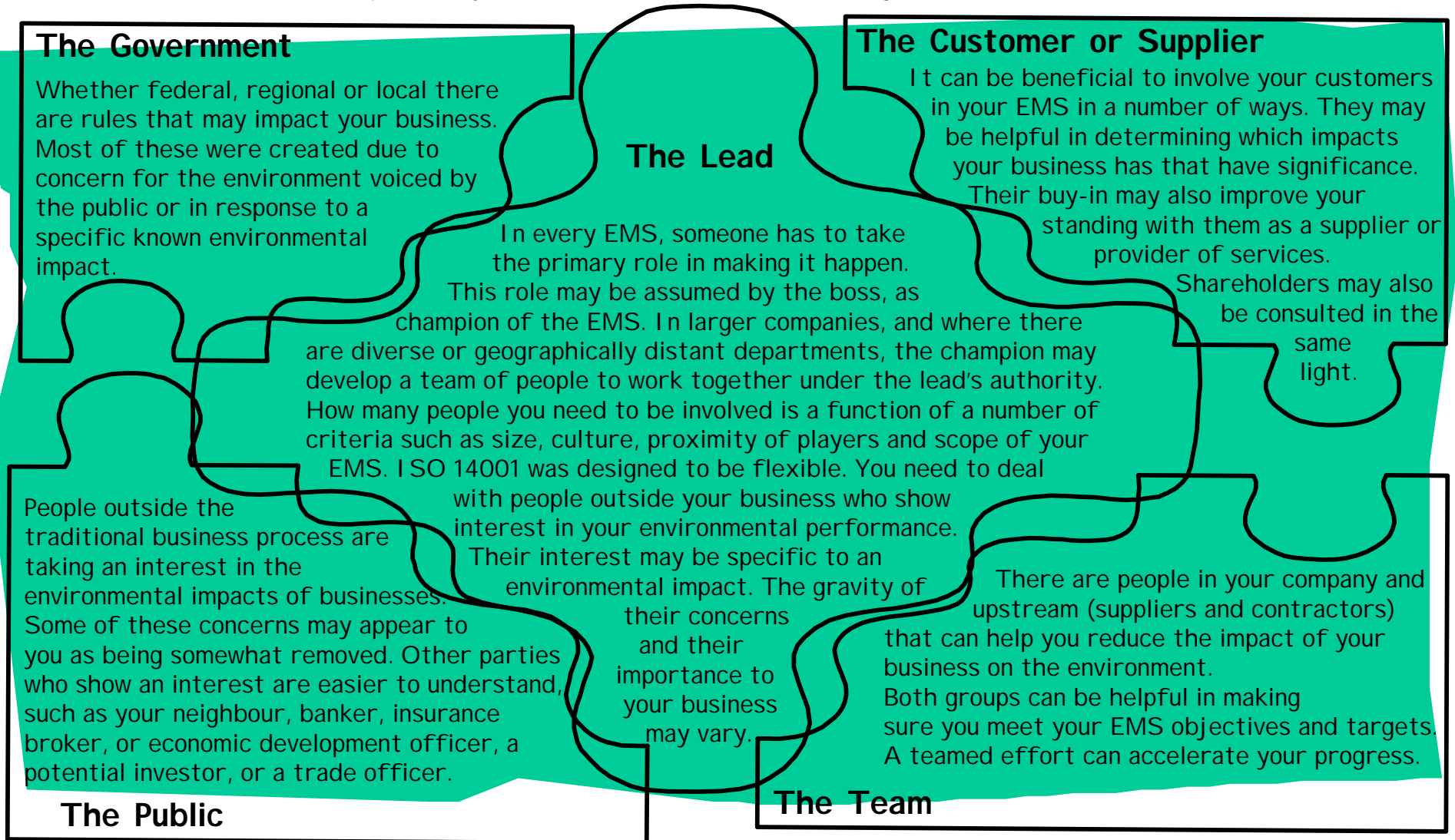


There is one detail that you should keep in mind; while the first sentence in Clause 4.1 states that the requirements of an EMS are described in the whole of this section, the clause does not include the fact that you have to identify what your EMS covers. Yet it is a requirement. It's called "**scope**" and it appears in one line on the bottom of page 1 of ISO 14001. "The scope of any application of this International Standard must be clearly identified."

Defining your scope is as important for you as it is for your customers.

**Think about who has a lead role and responsibility in the EMS.** There are supportive roles that can be filled by others on a team, but it could be just one person, you. There are other external people that you may wish to involve, such as your customers, who may have a direct or indirect interest in what the impacts of your business are on the surrounding environment.

# Who



ISO 14001 provides a framework for the roles and responsibilities for those directly involved in the development and maintenance of your EMS, and a mechanism for addressing the concerns of those who have a direct or indirect interest in your environmental performance.

Environment, social and economic factors have always been related.

Recognition of the inseparable links between these three factors was coined in the phrase « **sustainable development** » in a 1987 World Commission Report. Five years later ISO was asked to develop a global business approach. In 1999, Dow Jones announced an Index for Sustainability. This reinforces the interest in having businesses manage their environmental issues as carefully as their financial matters.

# Why

## Managing Resources

Everyone uses resources in their business - energy, air, water, trees, land, money, machinery, tools, staff and suppliers - just in different combinations. Implementing EMS will help you better manage the environmental resources necessary to your business.

## Managing Cost and Risk

There is a phrase « what gets measured gets managed. » There is no question that reacting to environmental issues can be very expensive. Managing these concerns in a logical, integrated business process can reduce these costs and minimize the risks, not only for your own company, but for your customers as well.

## ISO 14001- A « Better Business » Tool

There is growing recognition that a healthy environment and a vibrant, competitive economy are mutually dependent. There is also increasing evidence that companies that manage their environmental and social issues as well as their financial concerns demonstrate better financial performance. The corollary of this position is that companies that do not manage these concerns are unlikely to get or maintain public trust, customer confidence or investor interest.

Many business sectors are establishing industry standards related to the environment. There are still laws and regulations that are designed to protect the environment when due diligence is lacking. Having an EMS does not mean that you are automatically in compliance, it means that you have a systems approach to preventing problems and correcting ones when they arise.

## Meeting Governance Issues

More and more, customers and other interested parties have expectations for companies to manage their impacts effectively and efficiently. Evidence is starting to support that being « green » has its business rewards, financially and in terms of community recognition, whether it is at the local, national or international level.

## Adding Value

Just as there is growing interest in better managed companies, there is growing opposition to paying for the mistakes or inefficiencies of others whether it is in environment, health or safety. There is a growing interest in buying “green” from companies that manage their environmental resources responsibly.

## What timing is involved in an EMS?

How long will it take? When should you start? When will you be finished? What market drivers exist that may influence the rate of your adoption of EMS? All these are valid considerations.

# When

### Continual Improvement

Central to an EMS is the notion of process, of continual evolution to reflect the changes in business, the environment, people, products and services that occur. An EMS is not static. The PDCA framework enables you to evaluate and revitalize your business. As innovations surface that enable you to do more with less, you can improve your environmental performance.

### Responding to Immediate Needs

Do you have a customer that has a concern, or is there a contract that lists ISO 14001 as a vendor criterion? There are some sectors, like the automotive industry, that have already stated their purchasing preference for ISO 14001 certified suppliers.

### When do you start an EMS?

An EMS is not an overnight ticket to being green. Nor is it an activity to be started in the middle of an environmental crisis, such as a toxic spill. The length of time it takes to implement depends on what environmental practices you have in place now, the resources you have at your disposal, and drivers for an EMS.

The extended Free Trade Agreement of the Americas (FTAA), which was signed by 34 countries of the Americas made sustainable development a guarantee by 2005. ISO 14001 is deemed to be a stepping stone to meet that goal. The more demand there is for green trade, the more likely companies that export, and their supply chains will be drawn or driven to adopt ISO 14001.

You may not have an external market driver pushing you to adopt an EMS today. However, there are signals indicating that better managed companies, including those with environmental management systems, are getting more favourable loan and insurance rates, and may have reduced reporting requirements.

### Looking after Longer Term Issues

### Managing Medium-term Goals

There are three perspectives that relate to the « where » surface of the puzzle. There is goal orientation, current status and a physical description. Each of these needs to be addressed to be successful.

# Where

## Sizing Up Your EMS

Remember the earlier reference to Scope? Scope refers to the physical boundaries that your company needs to include in its EMS. An EMS can cover the whole corporation, part of it, one site, part of the site, or multiple sites. It also pertains to the extent of management control that you have in terms of the impacts and influence you have on others such as suppliers and contractors.

The determination of the "where" does an EMS apply?" is a function of your particular situation. You need to understand where the environment is impacted by your business, and who can influence the necessary changes to lessen your impact. Your EMS should include the area impacted by your significant environmental aspects. The determination of environmental aspects, impacts and which ones are significant is the single largest challenge ahead.

## Goal Orientation

In reality you need to understand where you want to go with your EMS to get full value from it. The commitment to buy-in to an EMS starts with a vision. An EMS, when fully implemented, can result in better control of the decisions that govern how your business impacts the environment.

**Where are you going?  
Where are you now?  
What does the EMS cover and  
where does it end?**

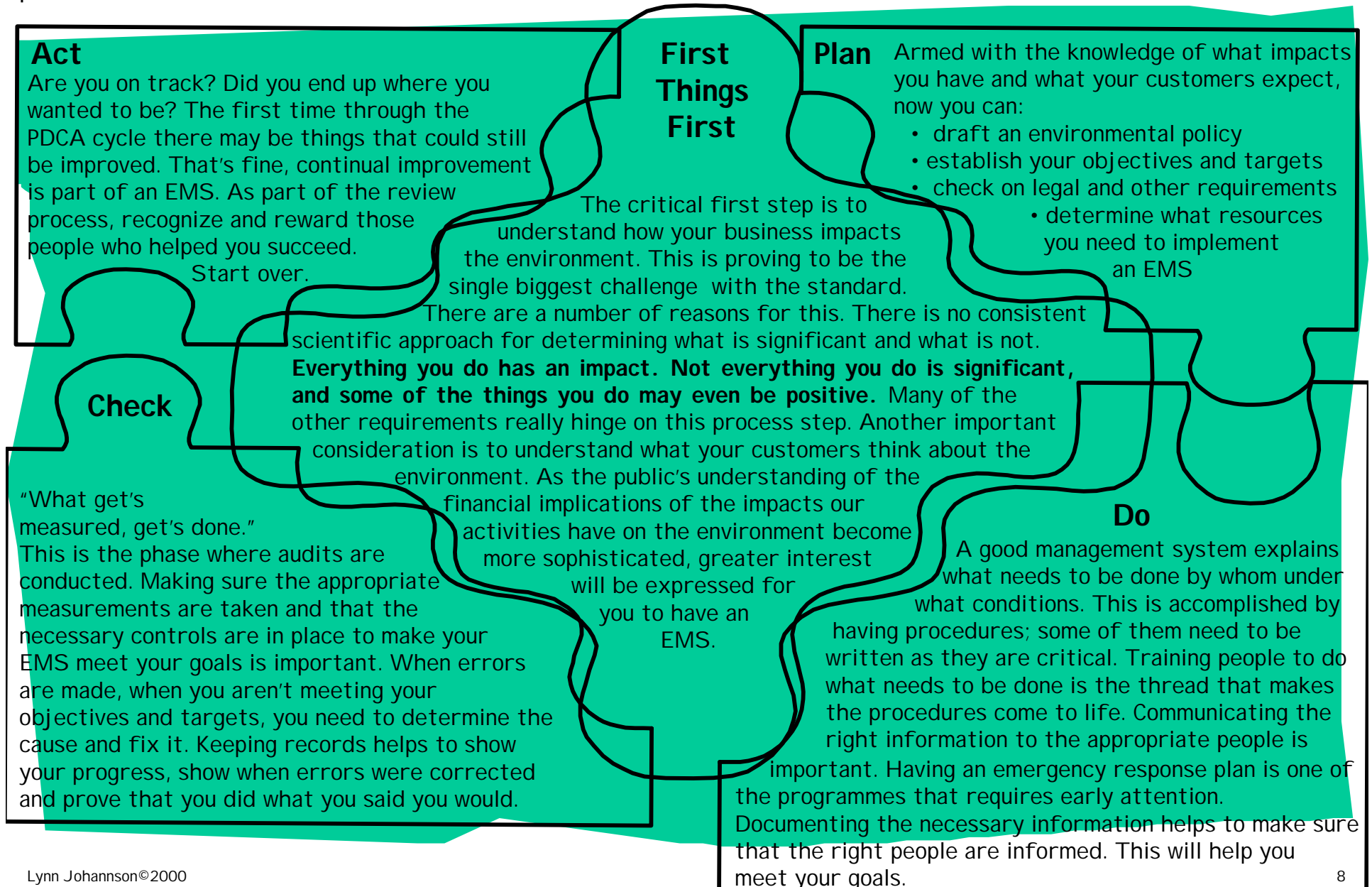
Where are you today? Today it is more common for companies to have environmental practices like recycling programmes. Some of the elements ISO 14001 requires you to have may already exist, but they are isolated. Figuring out what elements are in ISO 14001 will help you determine what you've got, what you need to do, and what has to be done next.

You may have heard or read about an initial environment review or a gap analysis. These are not requirements. Knowing what you have and what you need to do to meet the requirements of ISO 14001 is logical.

## Current Status

Here is the last surface of the box. Without understanding how the elements of an EMS hang together your EMS will not have the stability nor the credibility it needs to be truly of value to you, your customers and the community in which you operate. Here are the key points.

# How



« A Lesson in the Geometry of EMS » may be your first look under the lid at the impacts your business has on the environment, the opportunity an EMS offers for better management of this relationship, and the potential business benefits.

You may, as previously indicated, already have some elements of an EMS in place. The best way to begin is to read ISO 14001 cover to cover. There are insights in other clauses and in the Annex that could make your work easier. Keep your EMS simple and effective.

Remember ISO 14001 is a process standard; it states things that you must do to « conform ». It does not dictate how you approach the start of an EMS. ISO 14001 does not apply to products, rather it is applicable to the manufacturing or service process.

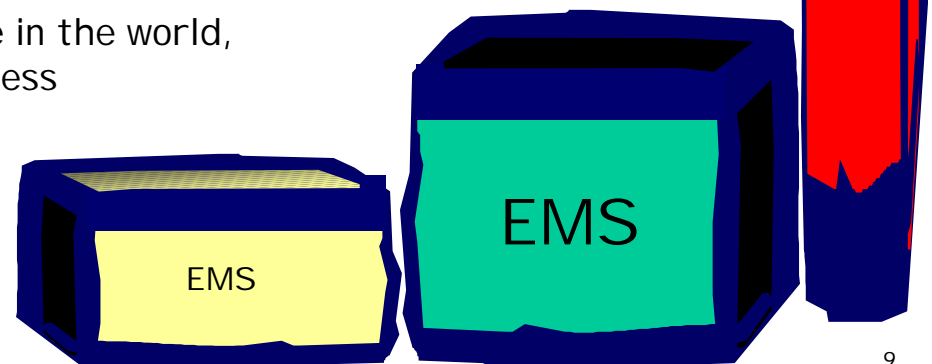
ISO 14001 does not demand performance outcomes to meet the standard with three exceptions. It requires a commitment to:

- continual improvement
- prevention of pollution
- comply with relevant environmental legislation and regulations and other requirements that you set for yourself in your environmental policy

Your EMS may look very different from that of the company next door. What is consistent to both, and to any organization that chooses to adopt an EMS that conforms to ISO 14001 is that the **requirements do not change.**

ISO 14001 is applicable to any size company, any where in the world, in any sector. Understanding how it fits into your business will take some time and effort.

You decide how best to make an EMS fit your organization.



## Putting a Lid on It

ISO 14001, like ISO 9001, and all the other standards in both series, are **voluntary**. It is the consensus process that brings countries together to develop an ISO standard and vote to support it.

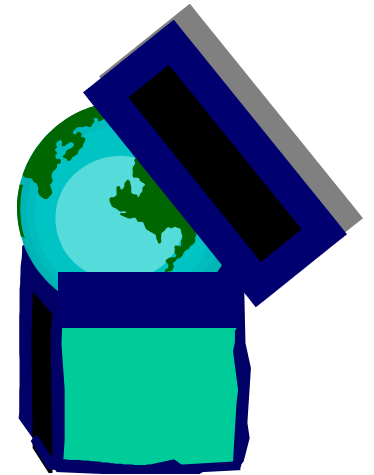
As a result, once you have completed one full cycle of your EMS' PDCA process and have determined through the audit process that you meet all the requirements, you may choose to self-declare or attain third party certification, also known as registration, through an accredited registrar.

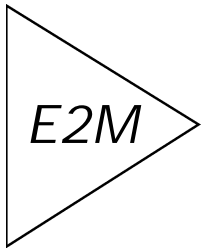
The standard itself does not differentiate between a self-declared system, and one that is registered/certified. Neither option adds or detracts from the requirements stated in ISO 14001. The choice of which option is appropriate is a business decision that you make in considering the expectations and requirements of your customers and interested parties. There are merits and costs to both.

Self-declaration can be less expensive. The real issue is whether or not your customers, or other parties that have an interest or concern related to your business, will accept it as being credible. There is a new option available to organizations to provide their self-declared system with additional credibility. It is a validation process based on the existence of the documentation required by ISO 14001. This service can be offered by accountants who have received the appropriate training. Click on [www.14000registry.com](http://www.14000registry.com) to learn more about what this option means and who can provide you with the service.

There are other considerations beyond your customer relationships. But that gets into details that aren't critical at this moment. The audit can be conducted by someone in the company who is knowledgeable about ISO 14001 and is able to be objective and impartial. The audit can also be conducted by someone with these same qualities and abilities outside the company. The registration or certification process, conducted by accredited registrars, can provide you with additional verification and a critical eye that can be valuable to your organization and to your customers.

The goal of implementing an EMS/ISO 14001 is to improve your business, the environment you operate in, and gain commercial advantage and public support in a growing green global marketplace.





E2 Management Corporation (E2M) is a management consulting firm that specializes in merging environmental and economic issues, helping clients evolve their business systems towards sustainability. E2M is one of the principles behind The Registry, located at [www.14000registry.com](http://www.14000registry.com)

The Registry is the e-commerce link to the growing green global marketplace. It has an international network of senior consultants respected and acknowledged as experts in environmental management systems, the ISO 14000 series, and quality management and for their ability to seamlessly integrate these knowledge and skill areas into everyday business practices.

The Registry hosts a marketing board for organizations large or small, anywhere in the world, that adopt ISO 14001 and others standards. The Registry reflects the impartiality of the standard in that a system can be self-declared, self-declared with the accountant's verification through a Report on Specified Auditing Procedures specifically created and managed by the Registry, or for those organizations that self-declare and are then certified or registered by an accredited third party.

The Registry has links to other help tools such as the Assessor, a software programme designed to assist small and medium-sized enterprise (SMEs) in the development and progress of their system. See the link to "Eco-mapping", a special electronic booklet created by Heinz-Werner Engel of Belgium, which helps SMEs understand their relationship to the environment, a crucial element required by ISO 14001. [The courtesy of feedback from users is requested, through the Registry.](#) The Registry has several other tools to help any organization with ISO 14001, see [www.14000registry.com](http://www.14000registry.com) for more information.

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