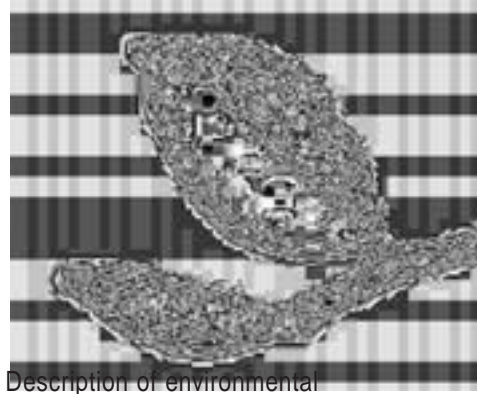
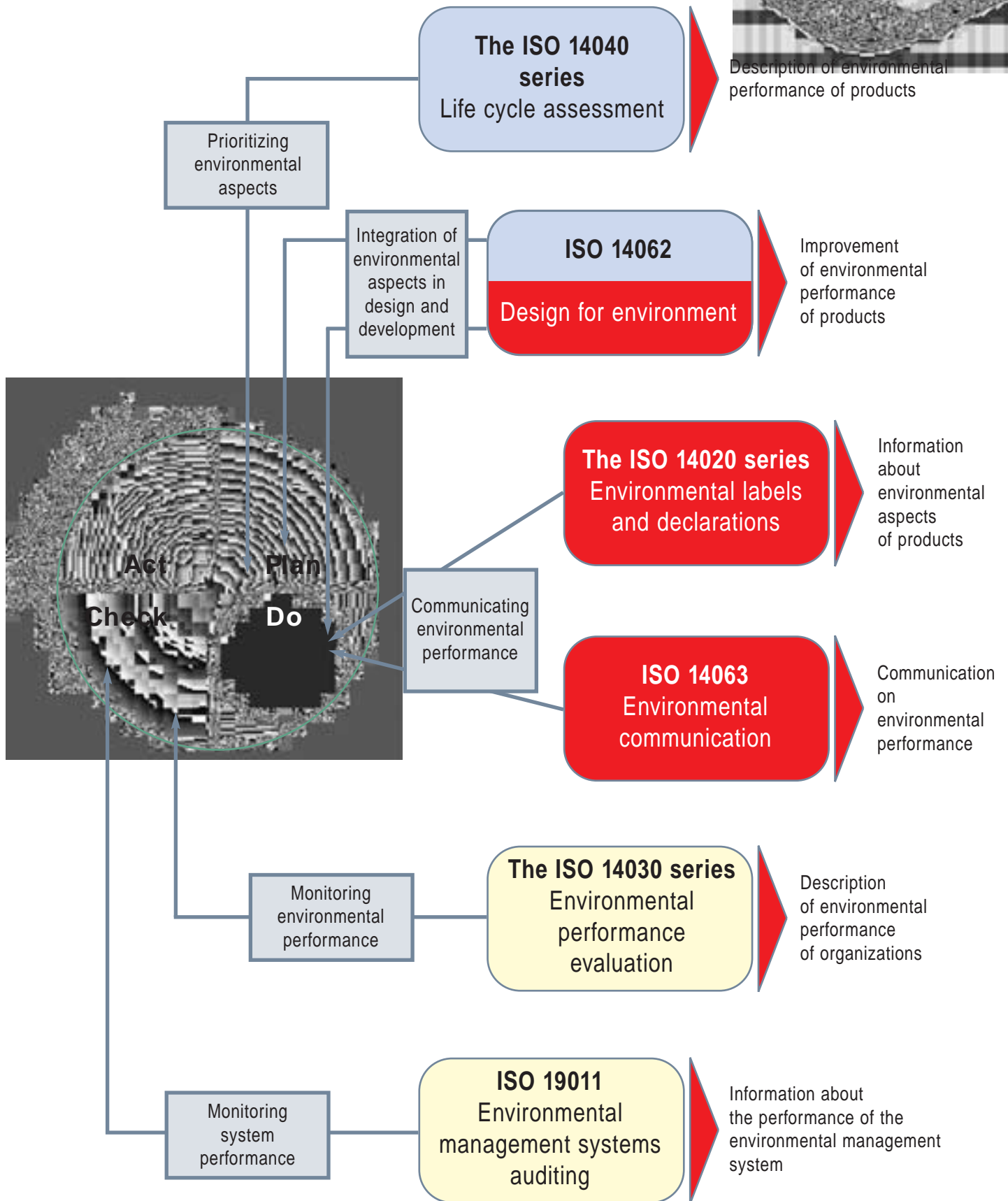


The ISO 14000 model



Description of environmental performance of products



ISO in brief

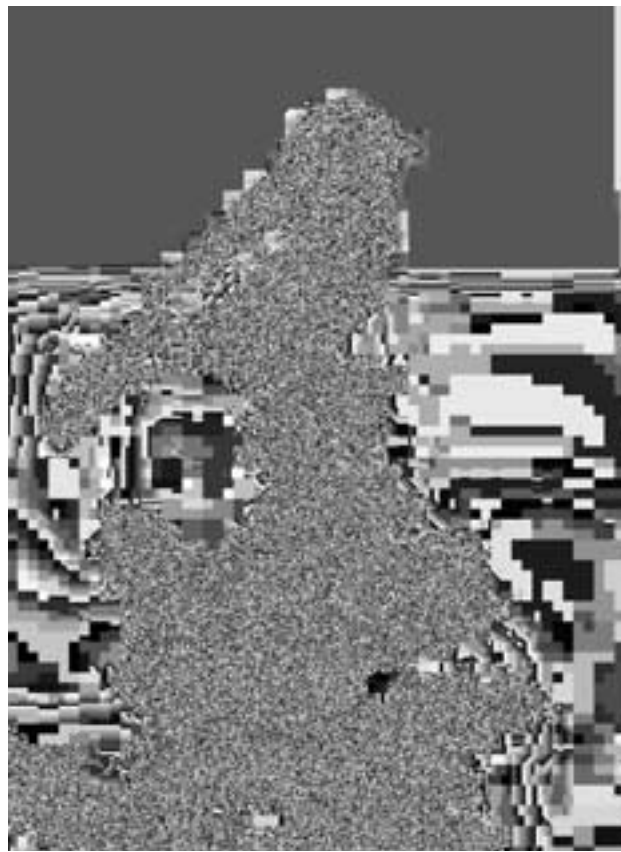
ISO is the International Organization for Standardization. It is made up of national standards institutes from countries large and small, industrialized, developing and in transition, in all regions of the world. ISO develops voluntary technical standards which add value to all types of business operations.

They contribute to making the development, manufacturing and supply of products and services more efficient, safer and cleaner. They make trade between countries easier and fairer. ISO standards also safeguard consumers and users in general of products and services, and make their lives simpler.

ISO standards raise levels of quality, safety, reliability, efficiency, effectiveness, compatibility and interchangeability – and provide such benefits at an economical cost.

ISO develops only those standards which are required by the market. This work is carried out by experts on loan from the industrial, technical and business sectors which have asked for the standards, and which subsequently put them to use. These experts may be joined by others with relevant knowledge, such as representatives of government agencies, testing laboratories, consumer associations and academia, or by non-governmental organizations that have a specific interest in the issues addressed in the standards.

Published under the designation of International Standards, ISO standards represent an international consensus on the state of the art in the technology concerned.



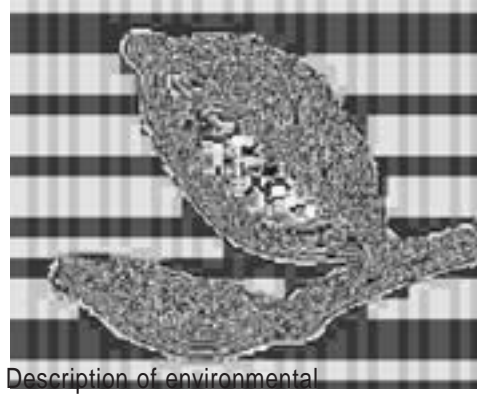
ISO/TC 207, Environmental Management

ISO/TC 207 is the ISO technical committee responsible for developing and maintaining the ISO 14000 family of standards.

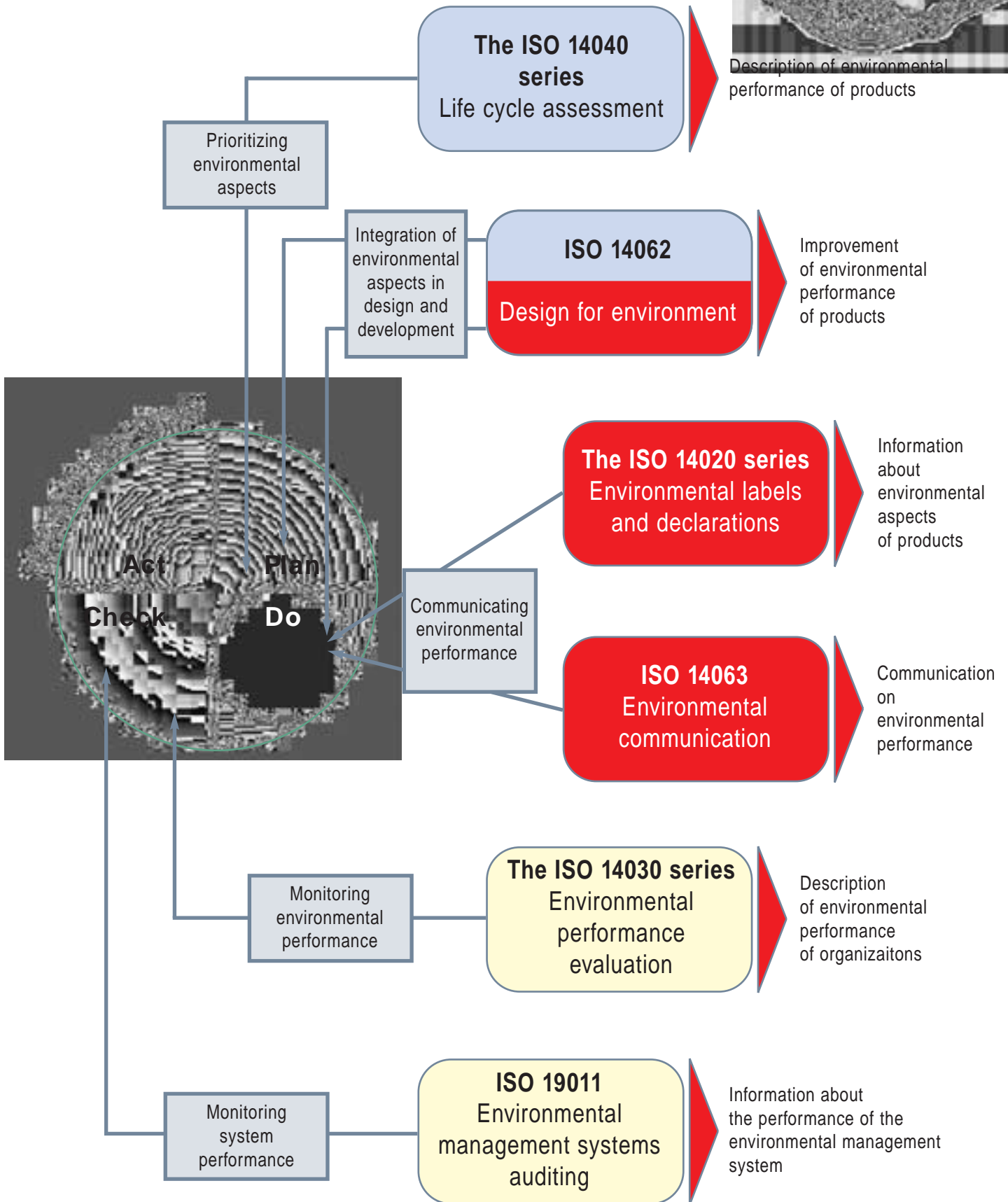
Published documents and ongoing work address the following areas:

- *Environmental management systems.*
- *Environmental auditing and related environmental investigations.*
- *Environmental performance evaluation.*
- *Environmental labelling.*
- *Life cycle assessment.*
- *Environmental communication.*
- *Environmental aspects of product design and development.*
- *Environmental aspects in product standards.*
- *Terms and definitions.*
- *Greenhouse gas emissions.*

The ISO 14000 model



Description of environmental performance of products





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ISO and the environment

“Think globally, act locally” – the well-known credo for addressing environmental issues – also expresses the objective of ISO’s many environmental standards. These standards reflect global consensus on good environmental practice in the international context that can be applied pragmatically by organizations all over the world in their particular situation.

ISO has a two-pronged approach to meeting the needs of all stakeholders from business, industry, governmental authorities and non-governmental organizations, as well as consumers, in the field of the environment.

Firstly, ISO offers a wide-ranging portfolio of standards for sampling and test methods to deal with specific environmental challenges. It has developed more than 350 International Standards for the monitoring of such aspects as the quality of air, water and soil, as well as noise and radiation. They also serve in a number of countries as the technical basis for environmental regulations.

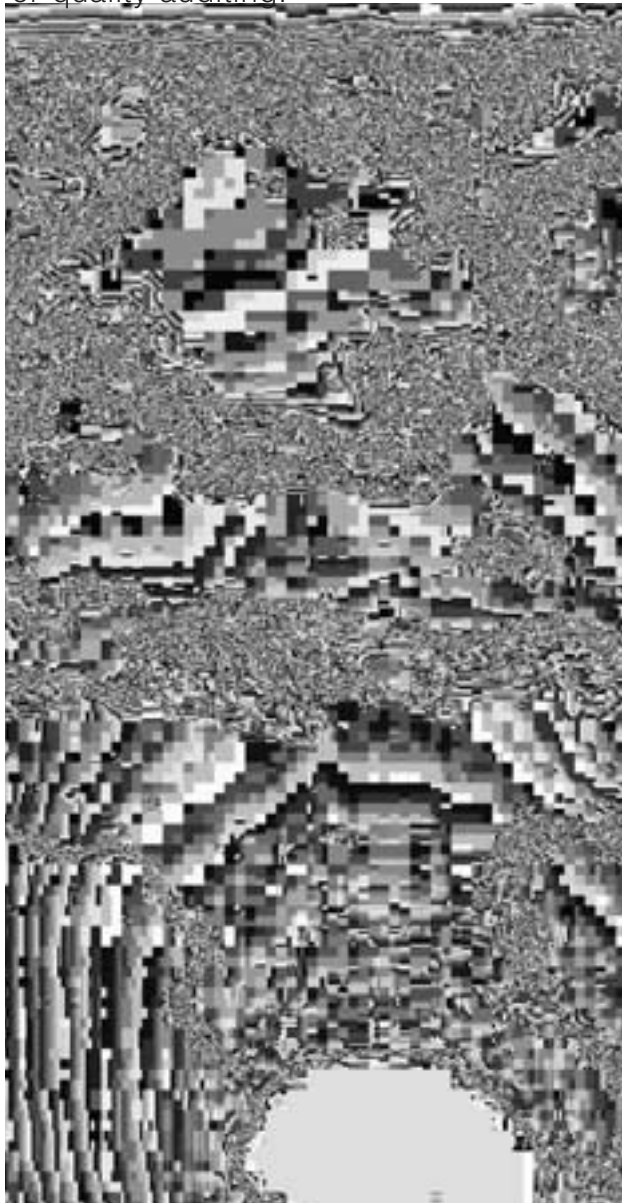
Secondly, ISO has developed standards that help organizations to take a more pro-active approach to managing environmental issues. These environmental management standards can be implemented in any type of organizations in either public or private sectors (from companies to administrations to public utilities).

To spearhead this strategic approach, ISO established a new technical committee, ISO/TC 207 in 1993, *Environmental management*. This move was a concrete manifestation of ISO's commitment to respond to the complex challenge of "sustainable development" articulated at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. It also stemmed from an intensive consultation process, carried out within the framework of the Strategic Advisory Group on Environment (SAGE). SAGE was set up in 1991 and brought together representatives of a variety of countries and international organizations – a total of more than 100 environmental experts – who helped to define how International Standards could support better environmental management.

As a result, the ISO 14000 family of standards on environmental management was developed to provide a practical toolbox to assist in the implementation of actions supportive to sustainable development.

Today, national delegations of environmental experts from 66 countries participate within ISO/TC 207, including 27 developing countries. In addition, 35 international non-governmental and business organizations participate as liaison organizations. The national delegations are chosen by the national standards institute concerned and they are required to bring to ISO/TC 207 a national consensus on issues being addressed by the technical committee. This national consensus is derived from a process of consultation with interested parties in each country.

From its beginning, it was recognized that ISO/TC 207 should cooperate closely with ISO/TC 176, *Quality management and quality assurance* – the ISO technical committee responsible for the ISO 9000 family of quality management standards – in the areas of management systems, auditing and related terminology. Successful steps have been taken to ensure compatibility of ISO environmental management and quality management standards. These include a common standard giving guidelines for environmental and/or quality auditing.





Benefits of the ISO 14000 family of International Standards

In today's global economy, organizations are increasingly called upon to demonstrate sound management of economic, social and environmental issues. Evidence suggests that a focus on this "triple bottom line" results in advantages in financing, insurance, marketing, regulatory treatment, and other areas.

An Environmental Management System (EMS) is a structured approach to addressing the environmental bottom line. ISO 14001 is the world's most recognized EMS framework – accepted from Argentina to Zimbabwe – that helps organizations both to manage better the impact of their activities on the environment and to demonstrate sound environmental management.

Since the publication of ISO 14001, many companies have implemented the standard and, by the end of 2001, nearly 37 000 organizations in 112 countries had their EMS certified as conforming to its requirements. ISO 14001 is designed to be flexible enough to be applied to any sized organization in both the private and public sectors. The bottom line is that certification to ISO 14001 can improve environmental management and enables equal access to a growing "green" market place.

ISO 14001 is also the starting point for companies that want to use other environmental management tools developed by ISO/TC 207. For example, ISO 14004 provides additional guidance and useful explanations and complements ISO 14001.

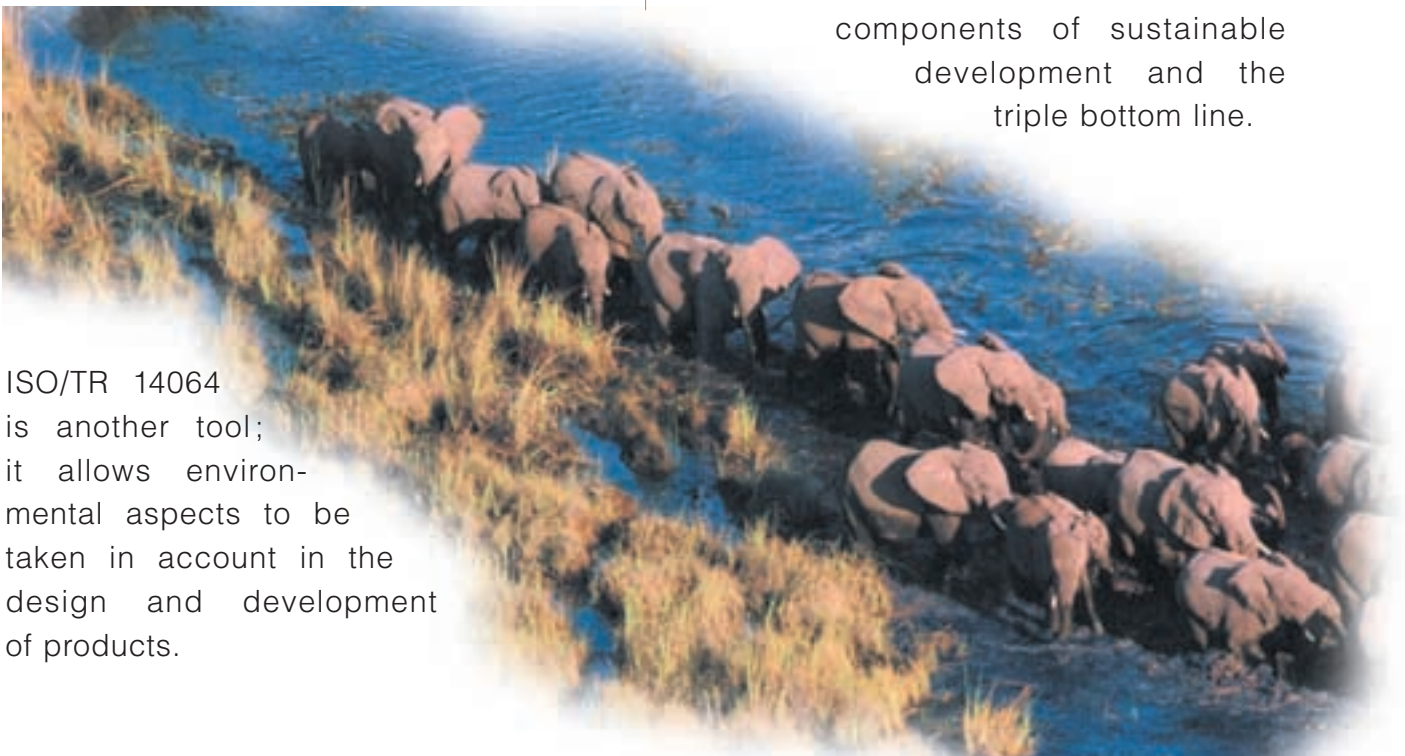
Of course, an EMS will only be of maximum benefit if it is properly implemented. Environmental audits are important tools that for assessing whether an EMS is properly implemented and maintained. The new auditing standard, ISO 19011, is equally useful for EMS and quality management system audits. It provides guidance on principles of auditing, managing audit programmes, the conduct of audits and on the competence of auditors. ISO 19011 replaces the ISO 14010, ISO 14011 and ISO 14012 first generation of environmental auditing standards in the ISO 14000 family.

Organizations implementing ISO 14001 can expect to improve their environmental performance. ISO 14031 provides guidance on how an organization can evaluate its environmental performance. The standard also addresses the selection of suitable performance indicators, so that performance can be assessed against criteria set by management. This sort of information can be used as a basis for internal and external reporting on environmental performance.

Communication on the environmental aspects of products and services is an important way to use market forces to influence environmental improvement. Truthful and accurate information provides the basis on which consumers can make informed purchasing decisions. The ISO 14020 series of standards address a range

of different approaches to environmental labels and declarations, including self-declared environmental claims, eco-labels (seals of approval) and quantified environmental information about products and services.

ISO 14001 addresses not only the environmental aspects of an organization's processes, but also those of its products and services. Therefore ISO/TC 207 developed additional tools to assist in addressing such aspects. Life-Cycle Assessment (LCA) is a tool for identifying and evaluating the environmental aspects of products and services from the "cradle to the grave": from the extraction of resource inputs to the eventual disposal of the product or its waste. The ISO 14040 standards give guidelines on the principles and conduct of LCA studies that provide an organization with information on how to reduce the overall environmental impact of its products and services.



ISO/TR 14064 is another tool; it allows environmental aspects to be taken in account in the design and development of products.

Although the ISO 14000 standards are designed to be mutually supportive, they can also be used independently of each other to achieve environmental goals.

The whole ISO 14000 family provides management tools for organizations to control their environmental aspects and to improve their environmental performance. Together, these tools can provide significant tangible economic benefits, including:

- reduced raw material/resource use;
- reduced energy consumption;
- improved process efficiency;
- reduced waste generation and disposal costs, and
- utilization of recoverable resources.

Of course, associated with each of these economic benefits are distinct environmental benefits too. This is the contribution that the ISO 14000 series makes to the environmental and economic components of sustainable development and the triple bottom line.



The future of the ISO 14000 family a look at new issues

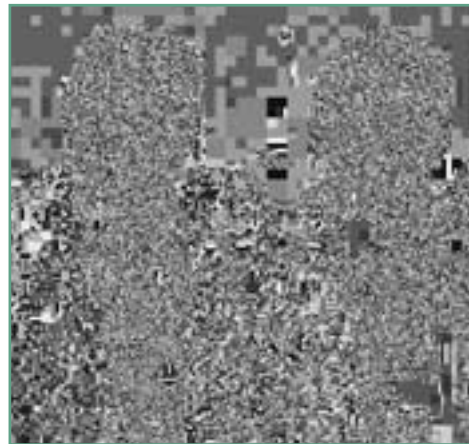
Sustainable development policy and practice has attracted considerable attention and debate in the past 15 years. Our understanding of and concerns about environmental and sustainable development issues has evolved over time too. Just as the existing ISO 14000 standards play an important role in helping organizations to address today's priorities, so too can future standards help to address future priorities.

An integral part of an organization's EMS is the commitment to continual improvement. ISO/TC 207 takes this principle to heart and is constantly improving its process to identify and respond to new standardization needs. ISO/TC 207's success in continuing to work on relevant standards is evidenced by two new work items:

- ISO 14063, on environmental communication guidelines and examples, will help companies to make the important link to external stakeholders.
- ISO/TC 207 has responded to the challenge of climate change by agreeing to start work on standards on measuring, reporting and verification of entity and project level Greenhouse Gas emissions.

We hope that this information helps you to understand how your organization can

obtain the maximum benefit from the ISO 14000 family. ISO/TC 207 is proud of its contributions to sustainable development since its inception in 1993. We are dedicated to ensuring, on an ongoing basis, that the ISO 14000 family meets the needs of the international user community and the concerns of those interested in the environment and sustainable development. You can help us to continue to evolve by contacting us and submitting your input and comments, either through your national standards institute (a complete list is posted on the ISO Web site: www.iso.org), directly to our ISO/TC 207 Secretariat, or through any of our sub-committees.



Daniel Gagnier (right)
ISO/TC 207 Chair

Ahmad Hussein
ISO/TC 207 Secretary
E-mail Ahmad.husseini@csa.ca
Web www.tc207.org





Business benefits of ISO 14001

Business today is not just about selling a product or service to a customer around the corner. In the rapid evolution to a global market-place, having a set of common rules is critical to facilitating trade. At the same time, these rules have to be flexible enough to be as applicable to a company in Hokkaido, Japan or Salvador, Brazil, as they are for one in San Francisco, USA, or Reykjavik, Iceland.

Increasingly in this single world market, an organization needs to be able to demonstrate sound business management that includes concern for the environment. There is growing evidence that this results in advantages in financing, insurance, marketing, regulatory, and other areas of operations. An Environmental Management System (EMS) provides a solid framework for meeting environmental challenges and realizing the above benefits. The International Standard ISO 14001 is used as a model for implementing an EMS by nearly 37 000 in 112 at the end of 2001..

There are many reasons for implementing an EMS. Businesses recognize that a focus on "command and control" by itself does not provide the bottom line results desired. ISO 14001 has proven to be a useful tool to evolve from maintaining regulatory compliance to a position of improved productivity and enhanced competitive advantage.

There is mounting evidence that companies which manage not only the standard economic factors but also the environmental and social factors affecting their business show financial performance superior to those which fail to manage all three.

Furthermore, experience has shown that ISO 14001 is a framework that inspires and channels the creativity of all members of an organization, making them active agents of change promoting environmental protection, resource conservation and improved efficiencies. When all members in an organization are challenged to think differently, it leads to the creation of innovative products and services. Innovation is a primary economic driver of economic growth. This makes ISO 14001 a powerful tool in which to invest.

How quickly and how effective the return for investment by an organization in ISO 14001 occurs is a function of a variety of conditions that include:

- the status and level of sophistication of its existing management system;
- the degree of environmental challenge it faces, including the past, present and future situations;
- the amount and quality of resources it has access to, both internally or externally;
- its state of preparedness – such as existing environmental management practices;
- the knowledge, skill and ability of its staff with responsibilities relating to environmental management and their relationship with those in other departments;

- the expectations that stakeholders have in relation to the EMS;
- the current status of compliance with legal requirements;
- other requirements to which the organization may have made a commitment, and
- the level of verification required by the organization to meet market requirements or the expectations of stakeholders.

By design, ISO 14001 is flexible: it is as applicable to the small business as it is to the multi-national organization, enabling access to a global market-places where business and environmental performance go hand in hand.



The ISO 14000 family of standards, guides and technical reports – including drafts

The ISO 14000 family of standards

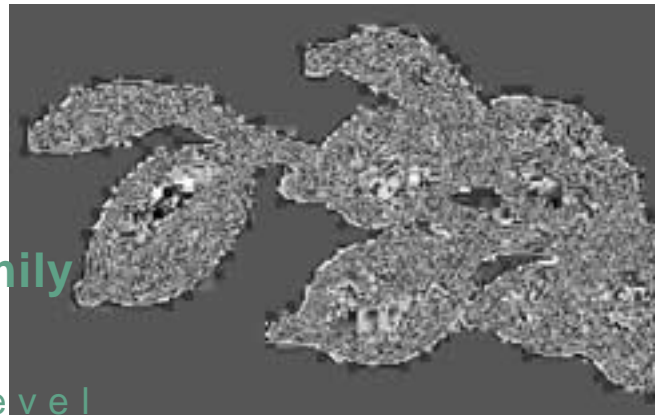
<i>Designation</i>	<i>Publication</i>	<i>Title</i>
ISO 14001:1996	1996	<i>Environmental management systems – Specification with guidance for use</i>
ISO 14004:1996	1996	<i>Environmental management systems – General guidelines on principles, systems and supporting techniques</i>
ISO 14010:1996	1996	<i>Guidelines for environmental auditing – General principles</i>
ISO 14011:1996	1996	<i>Guidelines for environmental auditing - Audit procedures – Auditing of environmental management systems</i>
ISO 14012:1996	1996	<i>Guidelines for environmental auditing – Qualification criteria for environmental auditors</i>
ISO 14015:2001	2001	<i>Environmental management – Environmental assessment of sites and organizations (EASO)</i>
ISO 14020:2000	1998	<i>Environmental labels and declarations – General principles</i>
ISO 14021:1999	1999	<i>Environmental labels and declarations – Self-declared environmental claims (Type II environmental labeling)</i>
ISO 14024:1999	1999	<i>Environmental labels and declarations – Type I environmental labelling - Principles and procedures</i>
ISO/TR 14025:2000	2000	<i>Environmental labels and declarations – Type III environmental declarations</i>
ISO 14031:1999	1999	<i>Environmental management – Environmental performance evaluation – Guidelines</i>

ISO/TR 14032	1999	<i>Environmental management – Environmental performance evaluation – Examples of environmental performance evaluation</i>
ISO 14040:1997	1997	<i>Environmental management – Life cycle assessment – Principles and framework</i>
ISO 14041:1998	1998	<i>Environmental management – Life cycle assessment – Goal and scope definition and inventory analysis</i>
ISO 14042:2000	2000	<i>Environmental management – Life cycle assessment – Life cycle impact assessment</i>
ISO 14043:2000	2000	<i>Environmental management – Life cycle assessment – Life cycle interpretation</i>
ISO/TR 14047:2002	2002	<i>Environmental management – Life cycle assessment – Examples of application of ISO 14042</i>
ISO/TS 14048:2002	2002	<i>Environmental management – Life cycle assessment – Life cycle assessment data documentation format</i>
ISO/TR 14049:2000	2000	<i>Environmental management – Life cycle assessment – Examples of application of ISO 14041 to goal and scope definition and inventory analysis</i>
ISO 14050:2002	1998	<i>Environmental management – Vocabulary</i>
ISO/TR 14061:1998	1998	<i>Information to assist forestry organizations in the use of the Environmental Management System standards ISO 14001 and ISO 14004</i>
ISO/TR 14062:2002	2002	<i>Environmental management – Integrating environmental aspects into product design and development</i>
ISO/WD 14063	To be determined	<i>Environmental management – Environmental communication – Guidelines and examples</i>
ISO 19011	2002	<i>Guidelines for quality and/or environmental management systems auditing (This standard replaces ISO 14010, 14011 and 14012)</i>
ISO Guide 64:1997	1997	<i>Guide for the inclusion of environmental aspects in product standards</i>
ISO/IEC Guide 66*	1999	<i>General requirements for bodies operating assessment and certification/registration of environmental management systems (EMS)</i>

NOTES: WD = Working Draft • CD = Committee Draft • DIS = Draft International Standard • FDIS = Final Draft International Standard • DTR = Draft Technical Report • TR = Technical Report

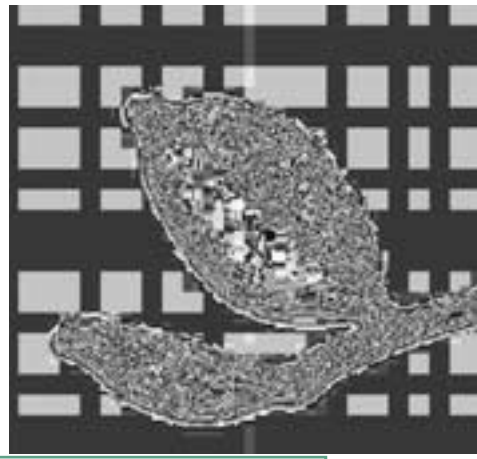
* ISO/IEC Guide 66 was developed by the ISO Policy development Committee on conformity assessment (ISO/CASCO)

Application of the ISO 14000 family



- At the organizational level

IMPLEMENTING ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS)	<p>ISO 14001:1996</p> <p>ISO 14004:1996</p> <p>Help an organization to establish a new or improve an existing EMS</p>	<p>ISO 14001:1996</p> <p>Specifies the requirements for an EMS that may be objectively audited for self-declaration, second or third-party certification/registration purposes</p>	<p>ISO 14004:1996</p> <p>Provides guidance to help an organization establish and implement an EMS, including guidance that goes beyond the requirements of ISO 14001</p>	<p>ISO/TR 14061:1998</p> <p>Contains information that assists in the implementation of ISO 14001 and ISO 14004 by forest management organizations and the forest products industry</p>		
CONDUCTING ENVIRONMENTAL AUDITS AND OTHER RELATED INVESTIGATIONS	<p>ISO 14010:1996</p> <p>Provides guidance on the general principles common to the conduct of any environmental audit</p>	<p>ISO 14011:1996</p> <p>Provides guidance on the procedures for the conduct of EMS audits, including the criteria for selection and composition of audit teams</p>	<p>ISO 14012:1996</p> <p>Provides guidance on the qualifications of internal or external environmental auditors and lead auditors</p>	<p>ISO 14015:2001</p> <p>Helps an organization to identify and assess the environmental aspects and associated business consequences of sites and organizations to support the transfer of properties, responsibilities and obligations from one party to another</p>	<p>ISO 19011</p> <p>Provides guidance on the principles of auditing; the management of audit programmes; the conduct of management system audits as well as on the competence of auditors</p>	
EVALUATING ENVIRONMENTAL PERFORMANCE	<p>ISO 14031:1999</p> <p>Provides guidance on the selection and use of indicators to evaluate an organization's environmental performance</p>	<p>ISO/TR 14032:1999</p> <p>Provides examples from real organizations to illustrate the use of the guidance in ISO 14031</p>	<p>Communicating results</p>	<p>ISO/WD 14063</p> <p>Will provide guidance on environmental communication related to an organization's environmental aspects and performance</p>	<p>Understanding terms and definitions</p>	<p>ISO 14050:2002</p> <p>Helps an organization to understand the terms used in the ISO 14000 series standards</p>



● To product and services

<p>USING ENVIRONMENTAL DECLARATIONS AND CLAIMS</p>	<p>ISO 14020:2000 Provides general principles which serve as a basis for the development of ISO guidelines and standards on environmental claims and declarations</p>	<p>ISO 14021:1999 Provides guidance on the terminology, symbols and testing and verification methodologies an organization should use for self-declaration of the environmental aspects of its products and services (Type II Environmental Labelling)</p>	<p>ISO 14024:1999 Provides the guiding principles and procedures for third-party environmental labelling certification programs (Type I Environmental Labelling)</p>	<p>ISO/TR 14025:2000 Identifies and describes elements and issues for consideration when making declarations of quantified product information based on Life Cycle Inventory data (Type III Environmental declarations)</p>		
<p>CONDUCTING LIFE CYCLE ASSESSMENT (LCA)</p>	<p>ISO 14040:1999 Provides the general principles, framework and methodological requirements for the LCA of products and services</p>	<p>ISO 14041:1998 Provides guidance for determining the goal and scope of an LCA study, and for conducting a life cycle inventory</p>	<p>ISO 14042:2000 Provides guidance for conducting the life cycle impact assessment phase of an LCA study</p>	<p>ISO/TR 14043:2000 Provides guidance for the interpretation of results from an LCA study</p>	<p>ISO 14048:2002 Provides information regarding the formatting of data to support life cycle assessment</p>	<p>ISO/TR 14049/14047 Provide examples that illustrate how to apply the guidance in ISO 14041 and ISO 14042</p>
<p>ADDRESSING ENVIRONMENTAL ASPECTS IN PRODUCTS AND PRODUCT STANDARDS</p>	<p>ISO Guide 64:1997 Helps the writers of product standards address environmental aspects in those standards</p>	<p>ISO/TR 14062:2002 Provides concepts and current practices relating to integration of environmental aspects into product design and development</p>		<p>Understanding terms and definitions</p>	<p>ISO 14050:2002 Helps an organization to understand the terms used in the ISO 14000 series standards</p>	



Products and sources of information on ISO 14000

As the products may be updated regularly, ISBN numbers and details of pagination and pricing are liable to change and therefore have not been included here. Information, including these details, on the latest editions can be obtained from ISO's Web site (www.iso.org), or by contacting sales@iso.org.



ISO Standards Compendium:

ISO 14000 – Environmental management – brings together in one volume all published International Standards developed by ISO Technical Committee 207, *Environmental management*. It also includes Draft International Standards.

ISO 14000 – Environmental management on CD-ROM

– the entire ISO 14000 family – standards, drafts and technical reports on CD-ROM, featuring easy access, navigation and retrieval.



Manual 10, Environmental management and ISO 14000

– introduces the ISO 14000 family to readers who wish to obtain an overall idea of the published standards as well as those still in preparation and how they were developed. It is of interest to any reader who wants to gain insight into those aspects of environmental management dealt with by ISO/TC 207, *Environmental management*, and its subcommittees.

The ISO Survey of ISO 9000 and ISO 14000

Certificates – a worldwide survey of certifications to ISO's two families of management system standards, including country-by-country breakdowns.

Publicizing your ISO 9000 or ISO 14000 certification – advice to help ISO 9000 and ISO 14000 certificate holders avoid the pitfalls of false, misleading or confusing claims in advertisements or other promotional material.

ISO Management Systems (full colour magazine, six issues a year) – provides comprehensive coverage of international developments relating to the ISO 9000 family of quality management standards and to the ISO 14000 environmental management standards, including news on their implementation around the world. *ISO Management Systems* (available in English, French and Spanish editions) is the premier platform for exchange and dialogue among the worldwide community of ISO 9000 and ISO 14000 users.



Web sites

www.iso.org

The ISO Web site, like that of many of its national standards institute members around the world, includes information on ISO 14000 and related products. A full list of ISO's members with contact details and hyperlinks is posted on the ISO site. Enquiries for information about ISO 14000 or sales enquiries should be directed to the national members institutes or to ISO Central Secretariat. The ISO Web site itself has a special section on ISO 14000 and ISO 9000 which includes both specifically prepared online material and free, downloadable copies of a number of the documents mentioned above. Latest ISO 14000-related developments are often the subject of press releases which are also posted on the site. Lastly, all ISO 14000 and related standards and publications are catalogued on the site and they can be ordered online.

www.tc207.org

The Web site of ISO/TC 207, *Environmental management*, responsible for the ISO 14000 family of standards presents the committee, its membership, structure and work programme and includes a section devoted to Frequently Asked Questions.