International Development Team

ISO Standards for Sustainability
Benno List, DESY
Sustainability Meeting
1.6.2022

ISO 14000 Family

ISO 14000 FAMILY
ENVIRONMENTAL MANAGEMENT

https://www.iso.org/iso-14001-environmental-management.html

POPULAR STANDARDS

MANAGEMENT SYSTEM STANDARDS

WHAT IS A MANAGEMENT SYSTEM?

A management system is the way in which an organization manages the interrelated parts of its business in order to achieve its objectives. These objectives can relate to a number of different topics, including product or service quality, operational efficiency, environmental performance, health and safety in the workplace and many more.

The level of complexity of the system will depend on each organization's specific context. For some organizations, especially smaller ones, it may simply mean having strong leadership from the business owner, providing a clear definition of what is expected from each individual employee and how they contribute to the organization's overall objectives, without the need for extensive documentation. More complex businesses operating, for example, in highly regulated sectors, may need extensive documentation and controls in order to fulfil their legal obligations and meet their organizational objectives.

MANAGEMENT SYSTEM STANDARDS LIST
View the full list of ISO MSS.

https://www.iso.org/management-system-standards.html

Overview

Introduction to
ISO 14001:2015

ISO 14001 is an internationally agreed standard that sets out the requirements for an **environmental management system**. It helps organizations improve their environmental performance through more efficient use of resources and reduction of waste, gaining a **competitive advantage** and **the trust of stakeholders**.

What is an **environmental management system**?

An environmental management system helps organizations identify, manage, monitor and control their environmental issues **in a "holistic" manner**.

Other ISO standards that look at different types of management systems, such as ISO 9001 for quality management and ISO 45001 for occupational health and safety, all use a High-Level Structure. This means that ISO 14001 can be integrated easily into any existing ISO management system.

ISO 14001 is suitable for organizations of all types and sizes, be they private, not-for-profit or governmental. It requires that an organization considers all environmental issues relevant to its operations, such as air pollution, water and sewage issues, waste management, soil contamination, climate change mitigation and adaptation, and resource use and efficiency.

Like all ISO management system standards, ISO 14001 includes the need for **continual improvement** of an organization's systems and approach to environmental concerns. The standard has recently been revised, with key improvements such as the increased prominence of environmental management within the organization's strategic planning processes, greater input from leadership and a stronger commitment to proactive initiatives that boost environmental performance.

https://www.iso.org/publication/PUB100371.html

TECHNICAL COMMITTEES

ISO/TC 207
Environmental management

SCOPE

Standardization in the field of environmental management to address environmental and climate impacts, including related social and economic aspects, in support of sustainable development.

Excluded:

- test methods of pollutants, setting limit values and levels of environmental performance, and standardization of products.

Note 1: TC 207 is focused on environmental management systems, auditing, verification/validation and related investigations, environmental labelling, environmental performance evaluation, life cycle assessment, climate change and its mitigation and adaptation, ecodesign, material efficiency, environmental economics and environmental and climate finance.

Note 2: Where appropriate, the ISO/TC 207 works in cooperation with existing committees on subjects that may support environmental management.

REFERENCE ↓	TITLE	
ISO/TC 207/SC 1	Environmental management systems	-> ISO 14001
ISO/TC 207/SC 2	Environmental auditing and related environmental investigations	
ISO/TC 207/SC 3	Environmental labelling	
ISO/TC 207/SC 4	Environmental performance evaluation	
ISO/TC 207/SC 5	Life cycle assessment	-> ISO 14040
ISO/TC 207/SC 7	Greenhouse gas and climate change management and related activities	-> ISO 14064

ISO 14000 Family (ISO/TC 207/SC1)

WHAT YOU NEED TO KNOW ABOUT ISO 14001

WHAT DOES IT DO AND WHO IS IT FOR?

ISO 14001 sets out the criteria for an environmental management system and can be certified to. It maps out a framework that a company or organization can follow to set up an effective environmental management system.

Designed for any type of organization, regardless of its activity or sector, it can provide assurance to company management and employees as well as external stakeholders that environmental impact is being measured and improved.

WHAT DO THE STANDARDS IN THE ISO 14000 FAMILY COVER?

The ISO 14000 family of standards are developed by ISO Technical Committee ISO/TC 207 and its various subcommittees. For a full list of published standards in the series see their standards catalogue.

ISO 14001 provides requirements with guidance for use that relate to environmental systems. Other standards in the family focus on specific approaches such as audits, communications, labelling and life cycle analysis, as well as environmental challenges such as climate change.

CAN AN ORGANIZATION BE ISO 14001 CERTIFIED?

There are more than 300,000 certifications to ISO 14001 in 171 countries around the world. Learn more about the ISO Survey of certifications.

We've also created a short document where you can find out more, not only on certification, but a wide range of benefits of ISO 14001.

⊘ **ISO 14001:2015**
Environmental management systems — Requirements with guidance for use

⊘ **ISO 14002-1:2019**
Environmental management systems — Guidelines for using ISO 14001 to address environmental aspects and conditions v Part 1: General

⊘ **ISO 14004:2016**
Environmental management systems — General guidelines on implementation

⊘ **ISO 14005:2019**
Environmental management systems — Guidelines for a flexible approach to phased implementation

⊘ **ISO 14006:2020**
Environmental management systems — Guidelines for incorporating ecodesign

⊘ **ISO 14007:2019**
Environmental management — Guidelines for determining environmental costs and benefits

⊘ **ISO 14008:2019**
Monetary valuation of environmental impacts and related environmental aspects

⊘ **ISO 14009:2020**
Environmental management systems — Guidelines for incorporating material circulation in design and development

⊘ **ISO 14052:2017**
Environmental management — Material flow cost accounting — Guidance for practical implementation in a supply chain

⊘ **ISO 14053:2021**
Environmental management — Material flow cost accounting — Guidance for phased implementation in organizations

https://www.iso.org/committee/54818/x/catalogue/p/1/u/0/w/0/d/0

8/19/2022

Benno List

14040 Family Family (ISO/TC 207/SC5)

8/19/2022

DEUTSCHE NORM — Oktober 2006

DIN EN ISO 14044

DIN

ICS 13.020.10 — Ersatzvermerk siehe unten

Umweltmanagement –
Ökobilanz –
Anforderungen und Anleitungen (ISO 14044:2006);
Deutsche und Englische Fassung EN ISO 14044:2006

Environmental management –
Life cycle assessment –
Requirements and guidelines (ISO 14044:2006);
German and English version EN ISO 14044:2006

Management environnemental –
Analyse du cycle de vie –
Exigences et lignes directrices (ISO 14044:2006);
Version allemande et anglaise EN ISO 14044:2006

Ersatzvermerk

Mit DIN EN ISO 14040:2006-10 Ersatz für DIN EN ISO 14040:1997-08, DIN EN ISO 14041:1998-11, DIN EN ISO 14042:2000-07 und DIN EN ISO 14043:2000-07

Gesamtumfang 84 Seiten

Normenausschuss Grundlagen des Umweltschutzes (NAGUS) im DIN

© DIN Deutsches Institut für Normung e.V. · Jede Art der Vervielfältigung, auch auszugsweise, nur mit Genehmigung des DIN Deutsches Institut für Normung e.V., Berlin, gestattet. Alleinverkauf der Normen durch Beuth Verlag GmbH, 10772 Berlin

Preisgruppe 25
www.din.de
www.beuth.de

9715094

⊘ **ISO 14040:2006**
Environmental management — Life cycle assessment — Principles and framework

⊘ **ISO 14040:2006/AMD 1:2020**
Environmental management — Life cycle assessment — Principles and framework — Amendment 1

⊘ **ISO 14044:2006**
Environmental management — Life cycle assessment — Requirements and guidelines

⊘ **ISO 14044:2006/AMD 1:2017**
Environmental management — Life cycle assessment — Requirements and guidelines — Amendment 1

⊘ **ISO 14044:2006/AMD 2:2020**
Environmental management — Life cycle assessment — Requirements and guidelines — Amendment 2

⊘ **ISO 14045:2012**
Environmental management — Eco-efficiency assessment of product systems — Principles, requirements and guidelines

⊘ **ISO 14046:2014**
Environmental management — Water footprint — Principles, requirements and guidelines

⊘ **ISO/TR 14047:2012**
Environmental management — Life cycle assessment — Illustrative examples on how to apply ISO 14044 to impact assessment situations

⊘ **ISO/TS 14048:2002**
Environmental management — Life cycle assessment — Data documentation format

⊘ **ISO/TR 14049:2012**
Environmental management — Life cycle assessment — Illustrative examples on how to apply ISO 14044 to goal and scope definition and inventory analysis

⊘ **ISO 14055-1:2017**
Environmental management — Guidelines for establishing good practices for combatting land degradation and desertification — Part 1: Good practices framework

⊘ **ISO/TR 14055-2:2022**
Environmental management — Guidelines for establishing good practices for combatting land degradation and desertification — Part 2: Regional case studies

⊘ **ISO/TS 14071:2014**
Environmental management — Life cycle assessment — Critical review processes and reviewer competencies: Additional requirements and guidelines to ISO 14044:2006

⊘ **ISO/TS 14072:2014**
Environmental management — Life cycle assessment — Requirements and guidelines for organizational life cycle assessment

⊘ **ISO/TR 14073:2017**
Environmental management — Water footprint — Illustrative examples on how to apply ISO 14046

https://www.iso.org/committee/54854/x/catalogue/p/1/u/0/w/0/d/0

14064 Family Family (ISO/TC 207/SC7)

STANDARD AND/OR PROJECT UNDER THE DIRECT RESPONSIBILITY OF ISO/TC 207/SC 7 SECRETARIAT (13) ↓

⊘ **ISO 14064-1:2018**
Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and remo

⊘ **ISO 14064-2:2019**
Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements

⊘ **ISO 14064-3:2019**
Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements

⊘ **ISO 14065:2020**
General principles and requirements for bodies validating and verifying environmental information

⊘ **ISO 14066:2011**
Greenhouse gases — Competence requirements for greenhouse gas validation teams and verification teams

⊘ **ISO 14067:2018**
Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification

⊘ **ISO/TR 14069:2013**
Greenhouse gases — Quantification and reporting of greenhouse gas emissions for organizations — Guidance for the application of ISO 14064-1

⊘ **ISO 14080:2018**
Greenhouse gas management and related activities — Framework and principles for methodologies on climate actions

⊘ **ISO 14090:2019**
Adaptation to climate change — Principles, requirements and guidelines

⊘ **ISO 14091:2021**
Adaptation to climate change — Guidelines on vulnerability, impacts and risk assessment

⊘ **ISO/TS 14092:2020**
Adaptation to climate change — Requirements and guidance on adaptation planning for local governments and communities

⊘ **ISO 14097:2021**
Greenhouse gas management and related activities — Framework including principles and requirements for assessing and reporting investments and financing activities related to climate change

⊘ **ISO 19694-1:2021**
Stationary source emissions — Determination of greenhouse gas emissions in energy-intensive industries — Part 1: General aspects

---

DEUTSCHE NORM | Juni 2019

DIN EN ISO 14064-1 | DIN

ICS 13.020.40 | Ersatz für
DIN EN ISO 14064-1:2012-05

**Treibhausgase –
Teil 1: Spezifikation mit Anleitung zur quantitativen Bestimmung und Berichterstattung von Treibhausgasemissionen und Entzug von Treibhausgasen auf Organisationsebene (ISO 14064-1:2018);
Deutsche und Englische Fassung EN ISO 14064-1:2018**

Greenhouse gases –
Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1:2018);
German and English version EN ISO 14064-1:2018

Gaz à effet de serre –
Partie 1: Spécifications et lignes directrices, au niveau des organismes, pour la quantification et la déclaration des émissions et des suppressions des gaz à effet de serre (ISO 14064-1:2018);
Version allemande et anglaise EN ISO 14064-1:2018

Gesamtumfang 109 Seiten

DIN-Normenausschuss Grundlagen des Umweltschutzes (NAGUS)

© DIN Deutsches Institut für Normung e. V. ist Inhaber aller einfachen Rechte der Verwertung, gleich in welcher Form und welchem Verfahren.
Alleinverkauf der Normen durch Beuth Verlag GmbH, 10772 Berlin. | Preisgruppe 31
www.din.de
www.beuth.de

8/19/2022

Benno List

ISO 50001

What is an **energy** management system?

An energy management system helps organizations better manage their energy use, thus improving productivity. It involves developing and implementing an energy policy, setting achievable targets for energy use, and designing action plans to reach them and measure progress. This might include implementing new energy-efficient technologies, reducing energy waste or improving current processes to cut energy costs.

ISO 50001 gives organizations a recognized framework for developing an effective energy management system. Like other ISO management system standards, it follows the "Plan-Do-Check-Act" process for continual improvement.

ISO 50001 provides a set of requirements that enable organizations to:
- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet that policy
- Gather data to better understand and make decisions concerning energy use
- Measure the results obtained
- Review the effectiveness of the policy
- Continually improve energy management

2 – *ISO 50001, Energy management systems*

- ISO 50015, *Energy management systems – Measurement and verification of energy performance of organizations – General principles and guidance*
- ISO 50047, *Energy savings – Determination of energy savings in organizations*
- ISO 17741, *General technical rules for measurement, calculation and verification of energy savings of projects*
- ISO 17742, *Energy efficiency and savings calculation for countries, regions and cities*
- ISO 17743, *Energy savings – Definition of a methodological framework applicable to calculation and reporting on energy savings*

- ISO/IEC 13273-1, *Energy efficiency and renewable energy sources – Common international terminology – Part 1: Energy efficiency*
- ISO/IEC 13273-2, *Energy efficiency and renewable energy sources – Common international terminology – Part 2: Renewable energy sources*

https://www.iso.org/publication/PUB100400.html