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Adopting a life cycle perspective through ISO14001: a game changer

How to increase your company's
performance using ecodesign





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ENEC – 2017

Authors

Julien Boucher^{1,2}
Pauline Evequoz¹
Damien Friot¹
Samuel Mayer³
Nadège Van Lierde³

¹ EA – Shaping Environmental Action – www.shaping-ea.com

² University of Applied Sciences and Arts Western Switzerland // HES-SO, HEIG-VD, Yverdon-les-Bains, Switzerland

³ Pôle éco-conception et Management du Cycle de Vie – www.eco-conception.fr

External reviewers

Katie Beverley – www.pdronline.co.uk/ecodesign
Diarra Kane – www.eco-conception.fr
Evelyn Lafond – www.ovam.be
Michael Niemczyk – www.ressourceneffizienz.de/
Prof. Gerhard Schneider – www.heig-vd.ch/rad/iide

Designer

Karin Tielemans

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FOREWORD

At the United Nations Sustainable Development Summit in September 2015, 193 countries agreed to adopt the UN's agenda for sustainable development to 2030. Seventeen Sustainable Development Goals (SDGs) were defined and officially came into force on 1st of January 2016. The SDGs seek to alleviate all forms of poverty, to fight inequality and to tackle climate change. Of particular interest to this report, SDG 12 is to ensure sustainable consumption and production patterns, with the aim of preserving natural resources and the environment, whilst maintaining the capacity for developing countries to grow.

ISO 14001 helps economic actors to implement actions that contribute to the attainment of SDG 12. Indeed, implementing an environmental management system constitutes a crucial step for any company seeking to tackle environmental issues or adopt a sustainable strategy. The latest version of ISO 14001, adopted in 2015, allows for a closer alignment between quality management (ISO 9001) and life cycle thinking, whilst maintaining the principle of continual improvement established in the original standard (1996). We believe the new version will make implementation of management systems that benefit both business and society more simple, consistent, and efficient.

By putting environmental performance at the heart of the management system, the new version of ISO 14001 emphasises an important point with regard to the fulfilment of SDGs: environmental preservation and economic profitability have to be considered simultaneously and to be mutually beneficial. By placing sustainability higher up the agenda, top management naturally become a promoter of the management system, providing impetus and legitimacy for continual sustainable improvement, as well as means adapted to their ambitions.

Similarly, the concept of life cycle perspective newly introduced in the standard imposes economic actors to adopt a new systemic mind-set: considering the extended responsibility they have on all their processes, products to services, and in all stages, from conception to end of life.

Ecodesign Centres across Europe have a longstanding expertise in applying a life cycle approach to achieve business goals while contributing to making our economy more circular. Through this document, we aim to share and mainstream this knowledge, and associated ecodesign practices, to support companies seeking ISO 14001 certification or revalidation.

Christian BRODHAG,
President of Pôle Eco-conception

Julien Boucher,
co-founder and director of EA
— Shaping Environmental Action

About ENEC

ENEC is the European Network of Ecodesign Centres: OVAM (Flanders, Belgium), Pôle Eco-conception (Rhône-Alpes, France), Effizienz-Agentur NRW (North Rhine-Westphalia, Germany), EA (Switzerland), Ihobe (Basque Country, Spain) and Ecodesign Centre (Wales, UK).

ENEC's mission is the open exchange of knowledge, experience and best practice on all aspects of eco-design. ENEC's objective is to ensure the largest diffusion of ecodesign practices within companies and regions through education and collaborations for implementation.

www.ecodesign-centres.org

About ECODESIGN

At ENEC we apply a broad definition of ecodesign: a proactive and anticipative approach embedded in company operations and strategies, aiming to continuously improve the environmental performances of products considering their whole life cycle from raw material extraction to end of life. The term product refers here to goods, services, processes or businesses, as defined in [ISO 14062](#).

In order to be beneficial, it is intended that ecodesign be carried out as an integral part of business operations. Ecodesign might thus have implications for all functions of an organisation, as described in [ISO 14006](#).

In the present report, we consider two complementary levels of ecodesign: light improvements of the product (re-design) and more disruptive changes, including business model changes (UNEP eco-innovation [presentation](#) and [manual](#)). For a review of the different definitions of ecodesign, please refer to ENEC's '[Envisioning ecodesign](#)'.

SUMMARY

The ISO 14001 standard was extensively amended in 2015. The new version of the standard suggests a closer alignment of traditional environmental management systems with the footprinting approaches (Life Cycle Thinking) adopted by many corporations in recent years to assess the environmental performance of products and companies. As a result, a new link is also established with ecodesign practices.

Context, risks and opportunities, performance and leadership are the four key new concepts enabling the bridge between management systems and company or product performances based on an enlarged life cycle perspective. Environmental aspects are now considered at corporate strategic level, opening the door for more integrated and structured ecodesign within companies.

This document is intended as a guidance document to enable the understanding of the full consequences of integrating life cycle thinking within management systems and of how new opportunities arising from the integration may be seized. This guidance document intends to support companies and auditors in the adoption of the new standard and further promote ecodesign principles and applications.

INTRODUCTION

Why an ENEC paper about ISO 14001?

First launched in 1996, ISO 14001 is the most widespread standard for environmental management systems, with approximately 320,000 certificates held worldwide. The **ISO 14001** standard was extensively amended in **2015**, introducing **major changes and closer alignment with ecodesign approaches**. To maintain their certification, organisations who have attained the standard need to adapt to this new version.

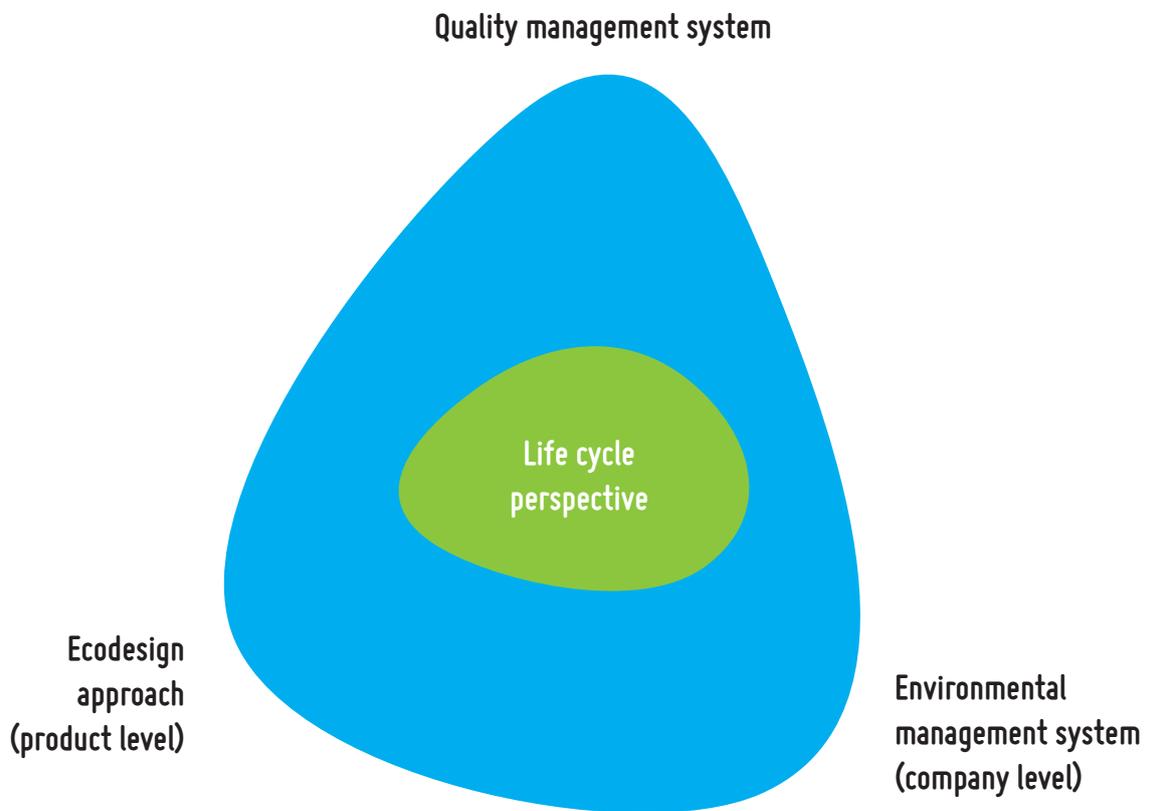
Until the revision of the standard, ISO 14001 consisted mainly of a compliance tool and a documentation system without indicators of environmental performance. As such, ISO 14001 was **often perceived as an administrative burden rather than a driver for innovation**.

The link with other **environmental reporting and management schemes, such as footprinting or global reporting schemes**, was far from evident. These metric-based approaches enable, however, companies to benchmark and communicate their corporate performance as well as to identify opportunities for improvement over the life cycle of their products. For this reason, they are increasingly popular.

While maintaining the same high-level objective of contributing to the environmental pillar of sustainable development, the new version of ISO 14001 bridges this gap and integrates concepts from other environmental management approaches, leading the way to additional environmental achievements. The concept of **continual improvement** based on the Deming wheel Plan-Do-Check-Act is maintained, but is now fully embedded into a life cycle perspective. Furthermore, the new version of the ISO 14001 standard also adopts the same high level structure and wording as the quality management system **ISO 9001:2015**, facilitating an integrated quality-environment approach.

ENEC believes that as a continuation of the less commonly used ISO 14006 standard, the integration of a life cycle perspective into the mainstream 14001 standard offers **a strategic opportunity to better integrate life cycle thinking, environmental and quality management within companies**, giving them a new way of looking at their product offering. Embedding life cycle thinking into an existing management structure will **provide a pathway for eco-innovative thinking** to be transformed into real outputs, a pathway that is currently missing in a lot of organisations.

This document provides ENEC's view on how organisations can transition to the new version of the ISO 14001 standard and **make ecodesign happen** in order to trigger **new business opportunities**.



With the adoption of a life cycle perspective, ISO14001:2015 offers a strategic opportunity to better integrate ecodesign approaches with environmental and quality management systems.

What are the objectives of this document?

This document provides **guidance and practical tools** for organisations seeking to achieve compliance with the key requirements of the amended ISO 14001 standard (version 2015), and seeking to better understand the advantages provided by a life cycle approach. By explicitly stating the links between ISO14001:2015 and ecodesign approaches, the objective is also to help companies proactively seeking to leverage ecodesign within their organisation.

Target readers are:

- Any actor implementing the new version or migrating from the previous version of the standard.
- Environmental or quality managers who would like to better understand life cycle thinking and promote ecodesign practices within their company.
- Designers seeking closer collaboration with their environmental managers.
- LCA and ecodesign practitioners looking to use the new standard as a basis to promote life cycle thinking within their company.
- Auditors looking for insights on how to assess life cycle perspective in management systems.

The document is structured in three sections:

1. An **overview** of the four key changes of the new standard from the angle of a life cycle perspective.
2. A **detailed description** of these four key changes and their implications for environmental managers and for ecodesign experts.
3. A **step-by-step guide** on how to implement ISO 14001 for the first time or to adapt to the new version, illustrated with a dedicated workflow.



**ISO 14001:
2015 — KEY CHANGES
IN A NUTSHELL**

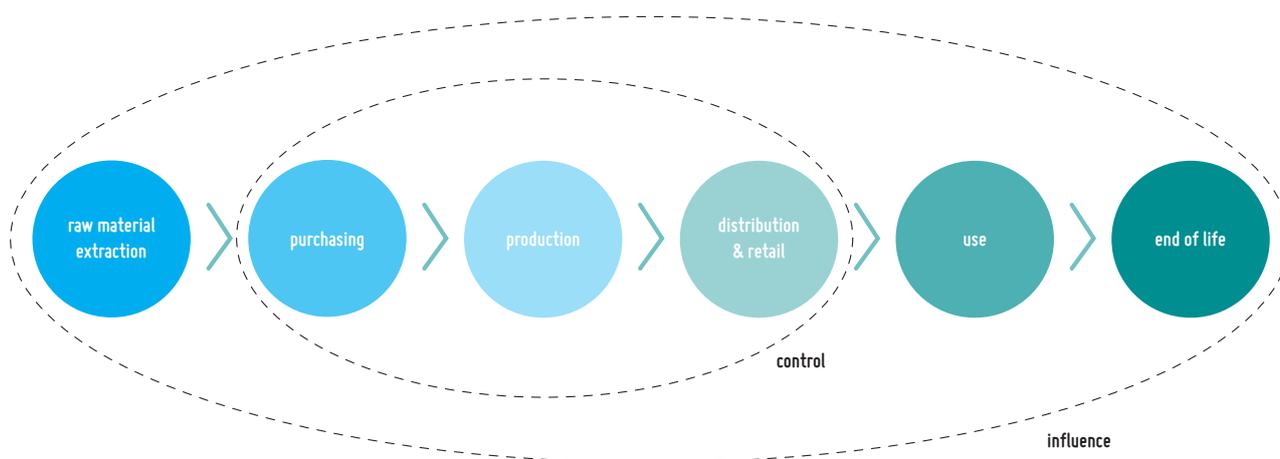
Taking a Life cycle perspective is at the heart of the new standard

While the former version of the standard was exclusively focused on the company within its physical (geographic) boundaries (e.g. an industrial site), the new version of the standard **widens the scope to include the whole value chain** (i.e. from suppliers to clients, including any other stakeholder along the way).

According to ISO 14001:2015, a systematic approach to environmental management can provide senior management with information to build success over the long term: how to contribute to sustainable development by controlling or influencing the way the organisation's products and services are designed, manufactured, distributed, consumed and disposed. Using a life cycle **perspective can prevent environmental impacts from being unintentionally shifted** elsewhere within the life cycle.

As defined by [UNEP-SETAC](#), a **life cycle approach identifies both opportunities and risks of a product or technology**, all the way from raw materials to disposal. To do this there is a continuum of life cycle approaches from qualitative (life cycle thinking) to comprehensive quantitative approaches (life cycle assessment studies).

This **life cycle perspective enables companies to focus on what really matters**, to make choices for the longer term, to improve entire systems, and to benefit from powerful metrics for communication and education. This approach has proved to be a stepping stone **for new opportunities in many business areas** and is commonly applied in large companies.



Example of perimeters of control and influence: a life cycle perspective considers the environmental aspects of an organisation's activities, products and services over different life cycle stages such as the acquisition of raw materials, design, production, transportation/delivery, use, end of life treatment, and final disposal. A life cycle perspective extends beyond the geographical boundaries of the company and includes processes and stakeholders that the company can directly control or influence.

LIFE CYCLE ASSESSMENT (LCA)

LCA is a quantitative tool that is commonly used to map and evaluate environmental impacts of products or activities along their life cycle. The primary goal of LCA is to document of how the production–consumption chain performs against key environmental indicators in order to:

- Compare options and products
- Prevent unintentional shifts of impacts to other actors and locations, e.g. from a producer to its suppliers
- Prevent unintentional shifts to other impacts, e.g. from climate change to impacts on ecosystems.

As such, life cycle assessment is not requested by the standard. However, it offers several advantages with respect to the implementation of ISO14001:2015, as well as for ecodesign.

Indeed, life cycle approaches are much more than comprehensive quantitative approaches (life cycle assessment studies) and have true value in their qualitative side (life cycle thinking).

LCA has several benefits that are well in tune with the 4 key changes of the new version of the standard:

- LCA allows qualitative mapping of the system and, therefore a clear understanding of the **external context** and key stakeholders
- LCA allows measurement and reporting against key **performance** indicators
- LCA considers the function of the product and, thus, the added value for the client. It offers **opportunities** to generate better, more competitive products.
- LCA application places the company in a position in which it can influence and demonstrate **leadership** across the whole value chain

The 4 key changes that will affect the way ISO 14001 is implemented

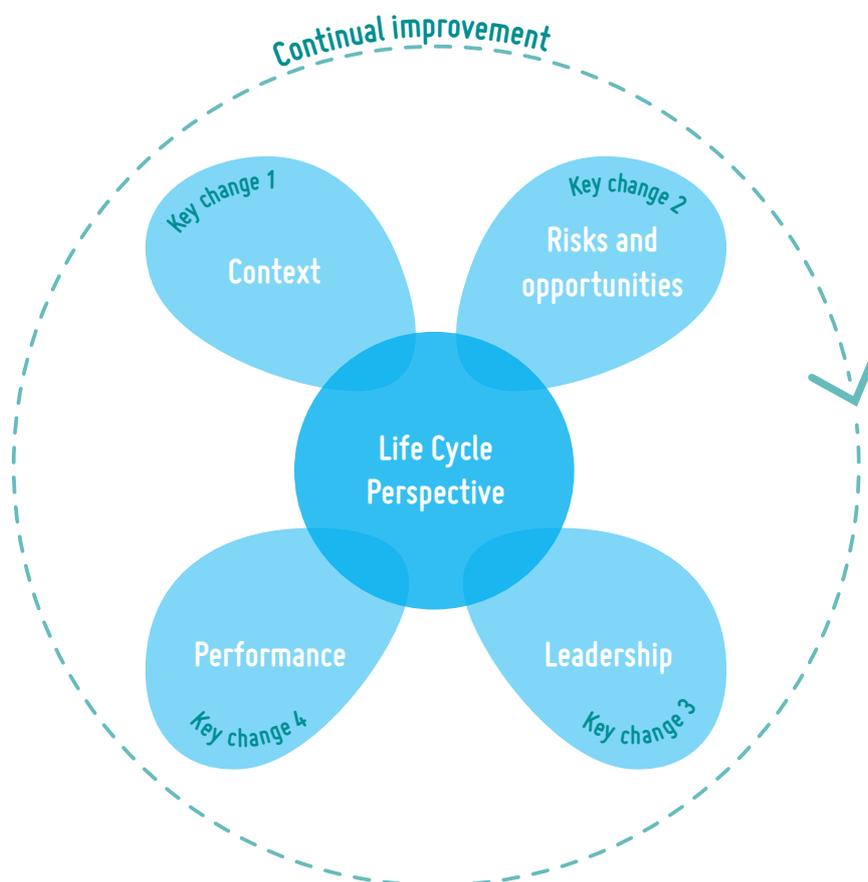
Four conceptual changes are included in ISO 14001:2015. Together with a life cycle approach, they make the standard a much more powerful tool. These changes encourage stronger embedding of ISO 14001 in the company's core business and closer alignment with product improvement approaches such as ecodesign.

Key change 1: Introduction of the notion of the **internal and external context**, opening the scope of the standard to a wider perspective than the company's own facility and looking to adopt a life cycle thinking approach across the value chain. The requirement that interested parties that affect or can be affected by the company are identified forces the organisation to adopt a life cycle based approach, analysing its value chain, and thus stepping away from the geographical boundaries of the companies or industrial sites.

Key change 2: Through greater alignment with core business priorities, the standard integrates the concept of **leadership**, asking for a strong involvement and strategic commitment from the top management and adequate communication.

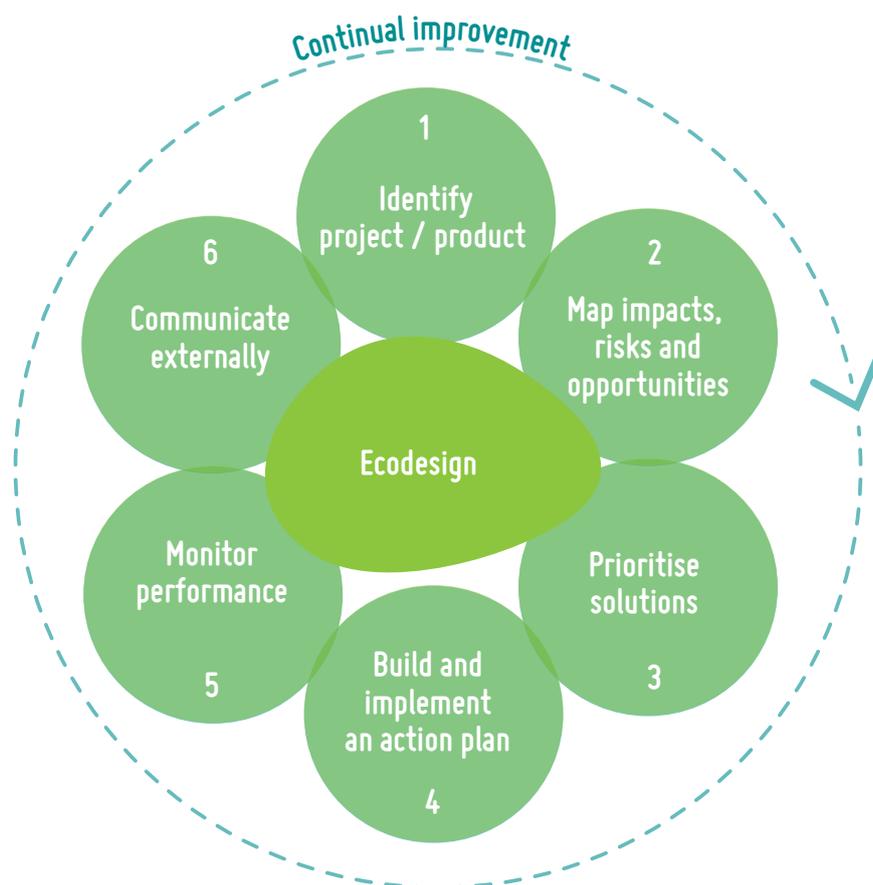
Key change 3: The company now has to assess **risks and opportunities** resulting not only from the fulfilment of its compliance obligation, but also from environmental performance, company image and competitiveness. This new requirement clearly raises environmental management to a higher business priority level. It includes the consideration of the environmental aspects of an organisation's activities, products, and services that it can control or influence.

Key change 4: Because the new standard goes beyond compliance by emphasising the notion of **performance**, organisations need to provide results and evidence of continual improvement. It is no longer sufficient to adopt a defensive stance towards pollution; organisations need to demonstrate a proactive and result-oriented environmental management, i.e. focusing on what really matters.



A closer alignment between environmental management systems and ecodesign approaches

Ecodesign can be understood as a process integrated within design and development that aims to continually improve the environmental performance of products throughout their life cycle, from raw material extraction to end of life. The more the approach is integrated within regular company activities, the greater the benefits. Ecodesign might thus have implications for all functions of an organisation.

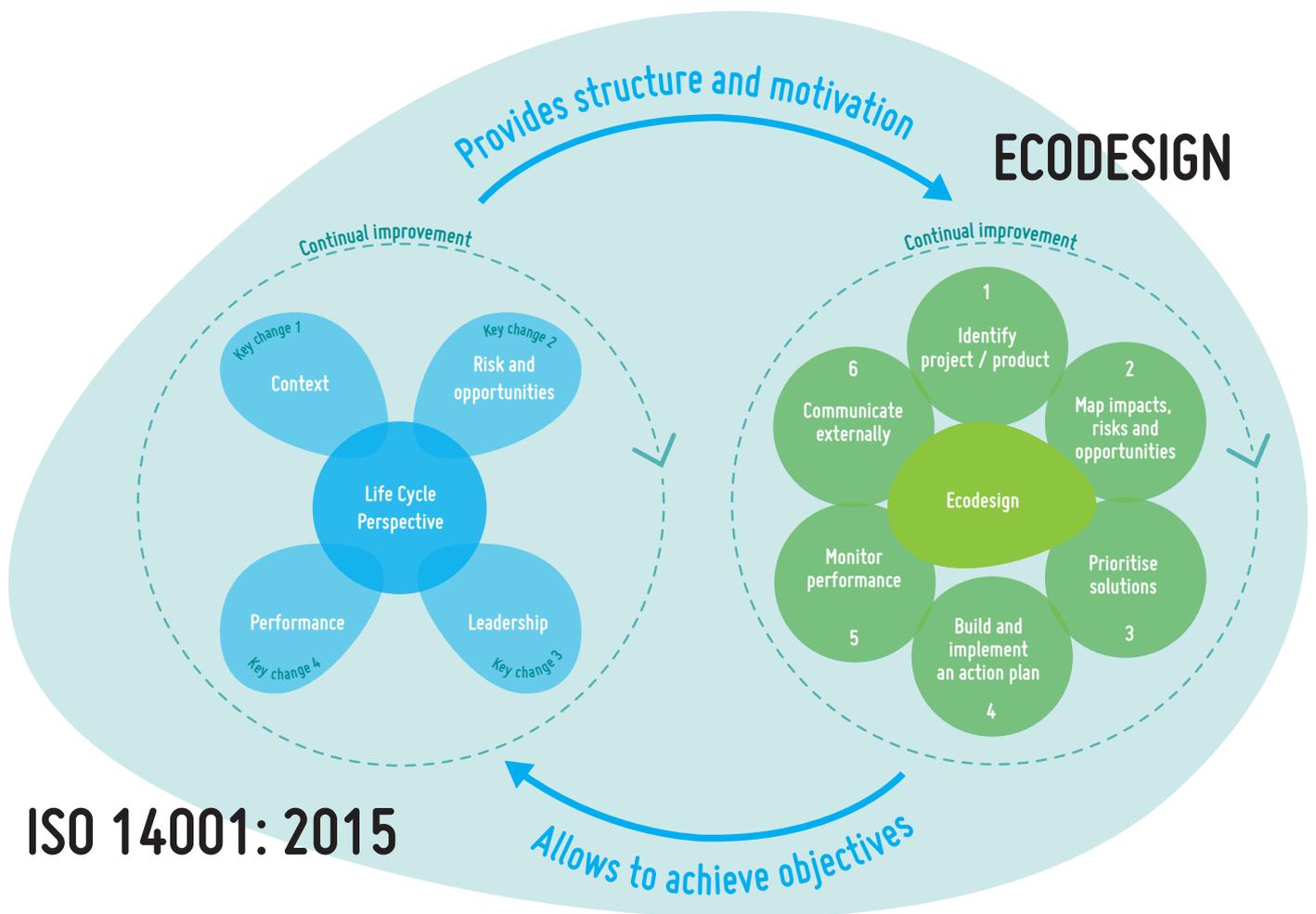


Main steps of the ecodesign approach

In its previous compliance-oriented version, the ISO 14001 framework lacked the momentum to trigger ecodesign projects within companies. In parallel, paradoxically, **ecodesign projects often missed some aspect of the structural framework** or management systems that ISO 14001 did not offer for this purpose; although some management systems have been developed specifically for ecodesign (e.g. ISO 14006 standard), they are only used by pioneers and very mature companies.

Many studies on ecodesign have stressed that success requires **the strategic integration and appropriate embedding of ecodesign processes within other business processes**. Many failures or lack of scaling-up of ecodesign approaches come from this decoupling between business processes and ecodesign processes, and the so-called “silo effect”. Integrating ecodesign within a company’s processes translates into a business opportunity for innovation and competitive advantage. Ecodesign needs to be an **integrated activity, considered early in the design process** and represented in the brief alongside other constraints that a design team considers. Many authors stress the importance of this early stage action.

The new version of the standard **closes this gap and enables a closer alignment between management systems and product life cycle improvements** that mutually benefit one another. Although the wording “products” and “product design” was already used in the previous version, the four new concepts embedded in ISO14001:2015 make the whole standard more actionable and applicable to ecodesign. This will thus enable companies to better anticipate opportunities and risks, reduce costs along the supply chain, ease the environmental management effort and empower more employees around sustainability issues.



Links between ISO14001:2015 and the ecodesign approach



THE KEY CHANGES AND THEIR PRACTICAL IMPLICATIONS

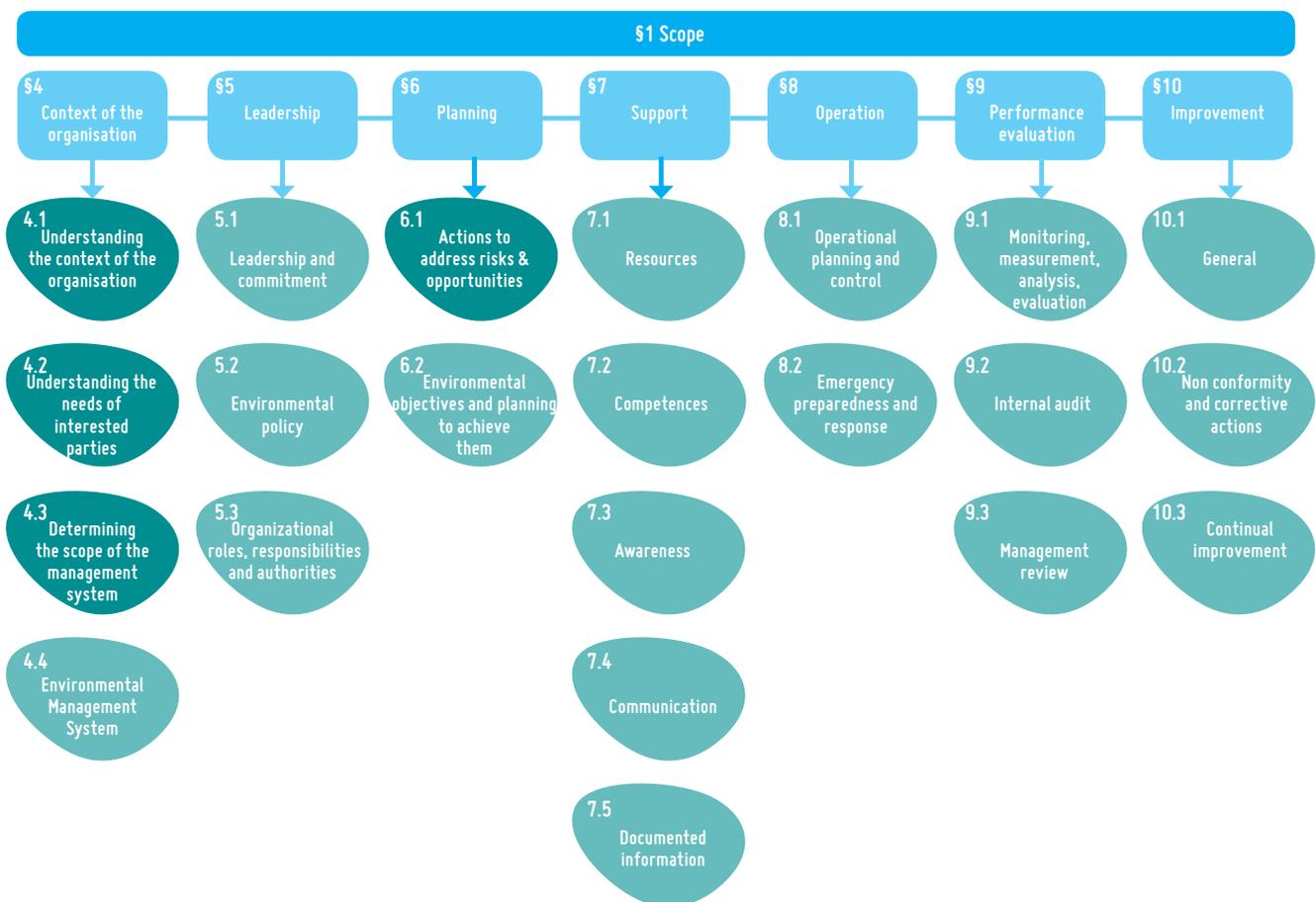
Key concept 1: Considering the internal and external context

WHAT DOES IT MEAN?

In introducing the concept of external issues, interested parties and environmental conditions, the new version **strongly emphasises the notion of sustainability and life cycle perspective** along the value chain, i.e. considering an extended context. This new dimension requires the organisation to analyse not only its internal challenges, but also its external challenges, the identification of (and actions upon) stakeholders' significant needs and environmental issues the organisation have influence on, not only in the company but also outside its formal boundaries, i.e. along its life cycle.

WHERE IS THE CHANGE?

The new structure of the 2015 standard includes a chapter dedicated to the context (§4) and described in four parts (§4.1 to § 4.4)



Mapping of the changes within ISO14001:2015 chapters and sub-chapters with respect to the key concept "CONTEXT"

Scope (§1)

The scope of the standard clearly states that the organisation shall consider any environmental aspects of its activities, products and services that it can either control or influence considering **a life cycle perspective**, i.e. considering an extended context.

Internal and external issues (§4.1)

The organisation needs to demonstrate a clear understanding of external/internal issues and environmental conditions that can affect its environmental performance. By determining these factors, the organisation needs to **switch from an internal focus to an extended life cycle vision**.

This new approach urges the organisation to integrate the elements of its **external context** into its **strategic analysis** and evaluate the implications for the environmental management system:

- new technologies or type of materials reducing the environmental footprint of production (e.g. new types of paint that are more environmental-friendly);
- legal bans on products (e.g. chemicals such as trichloroethylene);
- any current economic situation that would reduce the resources allocated for the environmental management system (e.g. staff, investments in energy optimisation of the building, etc.).

This new requirement intends to close the gap between environmental management and business strategic thinking by connecting external and strategic issues for the organisation to its environmental performance.

Understanding the needs and expectations of interested parties (§4.2)

The company shall identify the stakeholders that could have an influence on its activities (customers, final users, employees, suppliers, policy makers, shareholders, neighbour associations and NGOs, municipalities, etc.). The company shall also identify their needs and expectations on a regular basis as well as compliance obligations existing towards these needs.

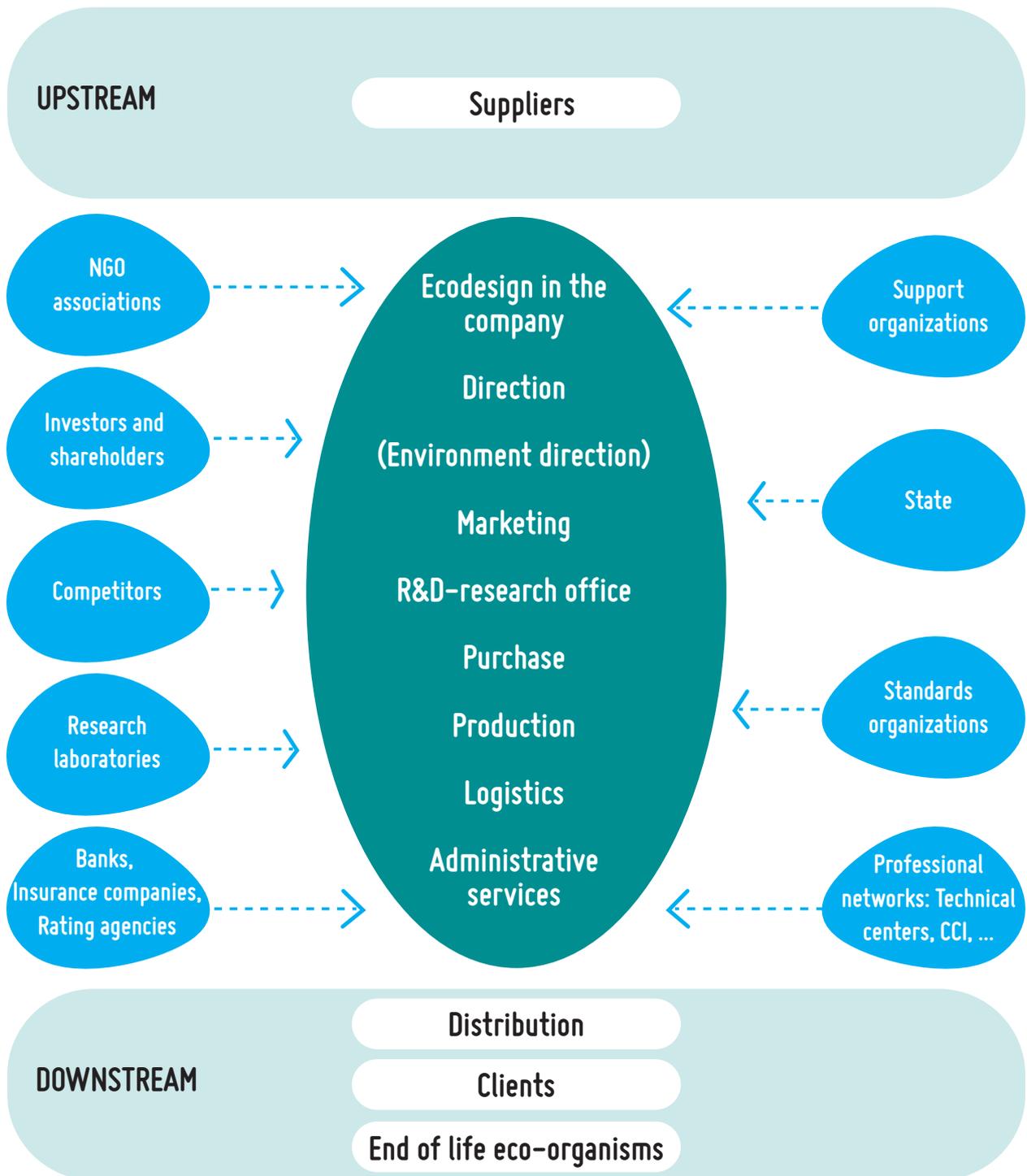
This new requirement emphasises the new holistic approach taken to environmental management through the inclusion of various actors along the value chain. It takes into consideration internal parties (for example employees, shareholders) but also external interested parties such as suppliers, clients, local authorities, associations, etc.

The **mapping** of these **actors** is a crucial part of the risks and opportunities analysis (§6.1) presented in key concept 3. Listing these interested parties will help companies to reduce risks by allowing them to understand and anticipate needs and/or help identify opportunities for the environmental management system:

For example:

- The Government/Authority has passed a new regulation for the ban of a toxic substance and expects immediate compliance;
- One environmental local association expects to receive transparent information on the chemical company's water treatment method;
- Customers are not aware of proper use of the product which may result in significant environmental impacts (such as the adequate quantity of washing powder used for laundry)

To achieve full understanding of the internal and external contexts, the organisation needs to adopt a life cycle perspective and capture the big picture in terms of its environmental impact and performance.



Example of context mapping, valid both for ISO 14001 and ecodesign approach (Source NF X30 264)

INPUTS FROM A LIFE CYCLE ASSESSMENT PRACTITIONER: VISUAL MAPPING OF THE PRODUCTION–CONSUMPTION CHAIN

One of the first step in Life Cycle Assessment is to visually map the different production, consumption and waste management steps. This visual mapping allows understanding the scope of the activities required to allow for a company to generate its products and services. In the ISO context, this mapping provides a rigorous way to think about all interested parties directly involved in the production, consumption and waste management activities.

Determining the scope of the environmental management system (§4.3)

This new life cycle concept drastically changes the spirit of the standard also with regard to the definition of the scope. The new version adds to the notion of “**control on**”, the notion of “**influence on**”. The organisation should identify and justify where they have:

control

- e.g. when a company is holding shares in one of its suppliers, or owns a subsidiary in another country;
- e.g. when a company is imposing specifications for the component or service a supplier is providing, in contrast to buying off-the-shelf components.

or influence

- e.g. when a company is the key customer for one of its suppliers
- e.g. when customer behaviour can be modified through appropriate communication

or do not control at all

- e.g. when a supplier is distant in the supply chain and/or the client demand is not significant for the supplier business

and to take actions not only on what they control, but also on what they have influence on.

In brief, the scope needs to be defined in a coherent manner, taking into account the internal and external issues of the company, its control and influence on activities and relevant stakeholders’ needs and expectations throughout the life cycle. The philosophy of this concept of context is that it provides an incentive for the organisation to promote sustainable goals, not only internally but along the organisation’s value chain.

This requirement to precisely define the scope of the environmental management system (EMS) as a function of the degree of influence or control the company may have is the consequence of the shift toward life cycle perspective throughout the standard. In practical terms, companies are expected to use their commercial position to promote goals that go beyond pure profit.

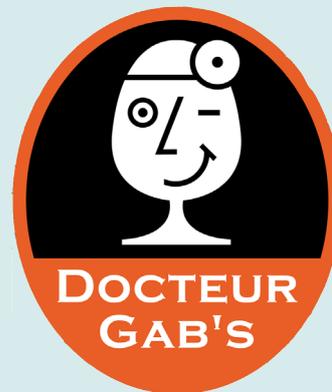
Environmental aspects (§6.1)

Determining the context of the EMS also requires having determined significant environmental aspects on the relevant life cycle stages of the product or company operations. This evaluation must be made with a **broad multi-criteria vision of environmental aspects** (water, air, soil, etc.). Both the influence of the internal context (all departments including the design department) and external context (a life cycle perspective including all stakeholders) on these environmental aspects must be considered. See key concept 3 and 4 for more information on environmental aspects.

CASE STUDY BRASSERIE DOCTEUR GAB'S — TAKING PROFIT OF THE LIFE CYCLE APPROACH

“Adopting a life cycle approach enabled us to identify hotspots for improvement in our supply chain and more specifically regarding our packaging. We changed supplier and started working closely with a local bottle provider with whom we co-created a new design and mould for our bottles. By launching pro-active dialogue with different suppliers in our supply chain we could save 45 tons of glass in 2016 and 200'000 km of transportation, which is a saving of over 40 tons of CO2eq. We are sure our customer will acknowledged this effort.”

Reto Engler, Founder



WHY IS THIS A DRIVER FOR ECODSIGN?

First because ecodesign is a life cycle based approach, and the new version of the standard brings this concept to the forefront, even for less forward-thinking companies. Considering the internal and external context, as well as adopting a life cycle perspective creates new opportunities for action and product improvement.

By understanding the needs and expectations of key stakeholders (including the customers and the designers) as well as mapping the **hot-spots across the full value chain**, there is clarity and purpose given to the investment of time and resources, taking into account environmental considerations. From a life cycle perspective, some products turn out to have much **larger impacts after they leave the factory** compared to the impacts of manufacturing them. Such products benefit hugely from design inputs that acknowledge these impacts later in the life cycle. A life cycle perspective can reveal the **design function as the most important place for effecting environmentally-beneficial change**. This means that environmental criteria at all points in the life cycle have to be accounted for during design. This is what the **new standard promotes**, and emphasises by clearly mentioning involvement of the design function if pertinent.

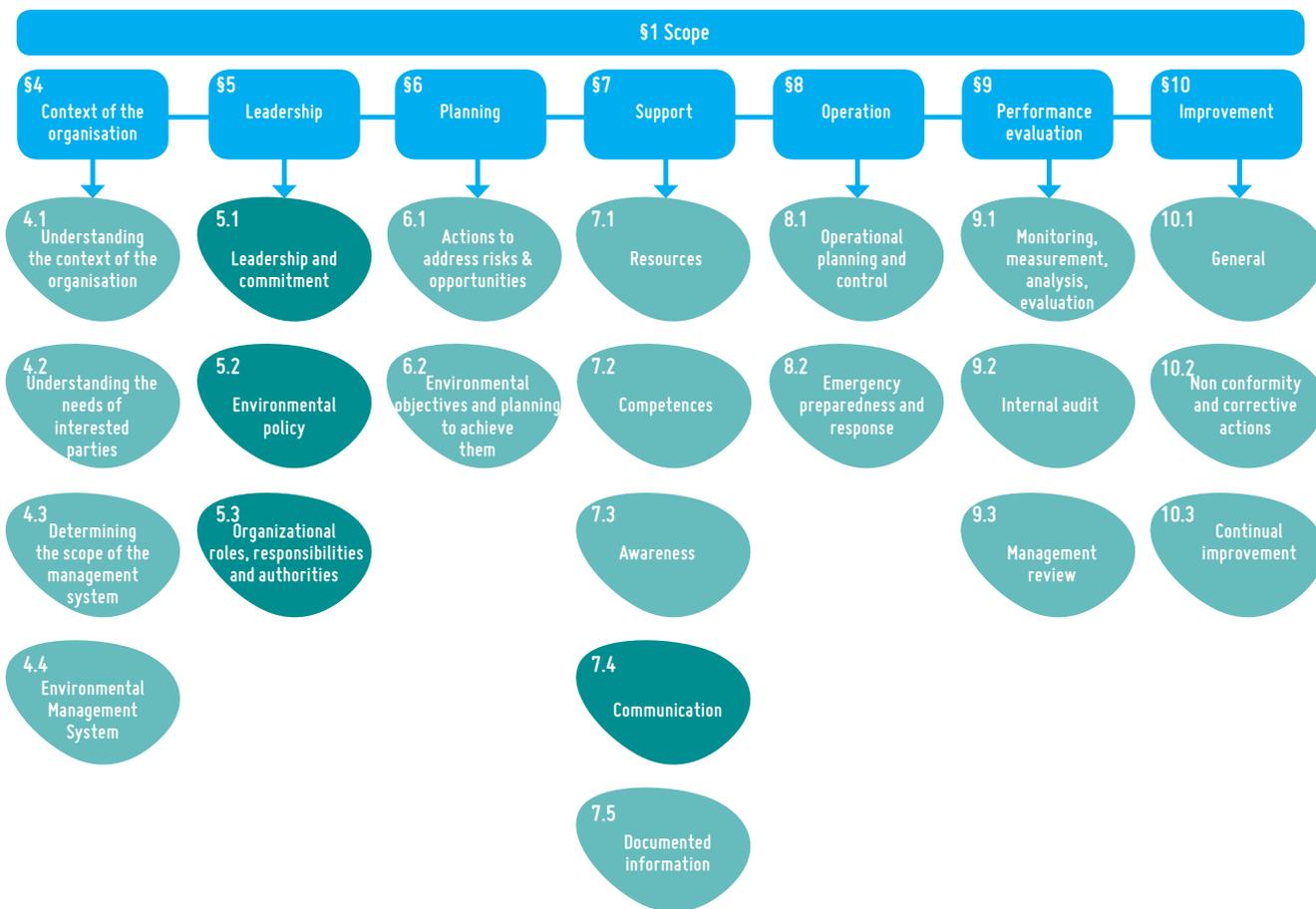
Key concept 2: Ensuring leadership for the approach

WHAT DOES IT MEAN?

The new version of the standard requires greater **involvement of the top management**. The top management needs to provide leadership and evidence commitment to the environmental management system. For the first time, the top management will be accountable for the effectiveness of the management system, placing the EMS (environmental management system) squarely at the core **strategic business level**.

WHERE IS THE CHANGE?

The new structure of the standard includes a dedicated chapter entitled “leadership” that calls for top management to be accountable for the environmental management system (§5).



Mapping of the changes within ISO14001:2015 chapters and sub-chapters with respect to the key concept “LEADERSHIP”

Leadership and commitment (§5.1)

By taking responsibility, the top management will ensure that the EMS reaches its intended outcomes and promotes the continual improvement of the system. By becoming accountable for the results, the top management has to fully understand and integrate a life cycle approach, which may lead the company towards a higher level of environmental performance.

A dedicated top management taking the lead on the environmental management system would be able to:

- describe the strategic lines of the EMS in the **environmental policy**, environmental objectives, and significant environmental aspects in the environmental policy (§5.2);
- understand and promote a **life cycle approach** at the basis of the organisation's environmental management system;
- provide the **necessary resources**, human and financial, to establish and maintain the system;
- attend regular **management reviews** to follow up on progress, make suggestions to improve the system and decide on measures aimed at the continual improvement of the EMS.

INPUTS FROM A LIFE CYCLE ASSESSMENT PRACTITIONER: KNOWING AND ACTING ON THE VALUE CHAIN DEMONSTRATE LEADERSHIP

A growing number of environmental issues cannot be tackled by a single company but require collaboration along value chains. Such collaboration is organised around a shared understanding of the reality of the environmental impacts induced by a cross-sector domain of activity. Taking a leading position in such initiatives thus ensures that challenges are understood and opportunities seized. The importance of such initiatives will probably grow in the future now that it is recognised that environmentally-conscious management enables better corporate performance in the long-run.

Environmental policy (§5.2)

The top management demonstrates its **engagement** through the **environmental policy** that will promote the importance of the system, the support of the management responsibilities and the actions towards the significant environmental aspects the company has identified with a life cycle perspective.

Communication (§7.4)

It is also important to ensure that the environmental policy is adequately communicated. Environmental policy is a communication document both for **internal and external** purposes. When establishing its communication process(es), the internal organisational structure should be considered to ensure communication with the most appropriate levels and functions.

INPUTS FROM A LIFE CYCLE ASSESSMENT PRACTITIONER: PERCEPTIONS OF IMPACTS ARE KEY FOR COMMUNICATION

While Life Cycle Assessment provides a robust quantitative analysis of environmental impacts, it is a very poor communication tool due to its complexity. Simple games, based on the perception of impacts along the life cycle, enable understanding of the perceived environmental impacts of a company or a product in terms of where they occur along a value chain and for what reason. Basing a communication on discrepancies between reality and perception has proved to be a beneficial approach.

CASE STUDY : ESP — INVOLVING MANAGERS IN THE ENVIRONMENTAL APPROACH

ESP manufactures “insulated tools” for electricians. Their products are specially designed to meet the needs of professionals in the electricity industry. Their range is regularly updated with new and innovative products, which are adapted to evolving electrical systems, the environment and safety standards.

When did you achieve ISO 14001 certification, and what motivated you to become certified?

The company has been certified under ISO 14001 since 2012. We had three reasons for that :

- To be in compliance with environmental rules
- To maintain competitiveness, as our main rival is also certified ISO 14001
- To improve the working conditions for the whole team: let's be cleaner and let's work in a healthy atmosphere, reducing our environmental impact.

The more we worked on integrating environmental matters in our management system, the more we realized that we needed to deploy it into the product supply. Our goal became to develop sustainable products and gain the associated competitive benefits.

We first worked in the business unit of ESP. We have now spread the process across other business units, such as SIBILLE FAMECA ELECTRIQUE, our main distributor and Rixheim FAMECA, specializing in security equipment against electric risks.

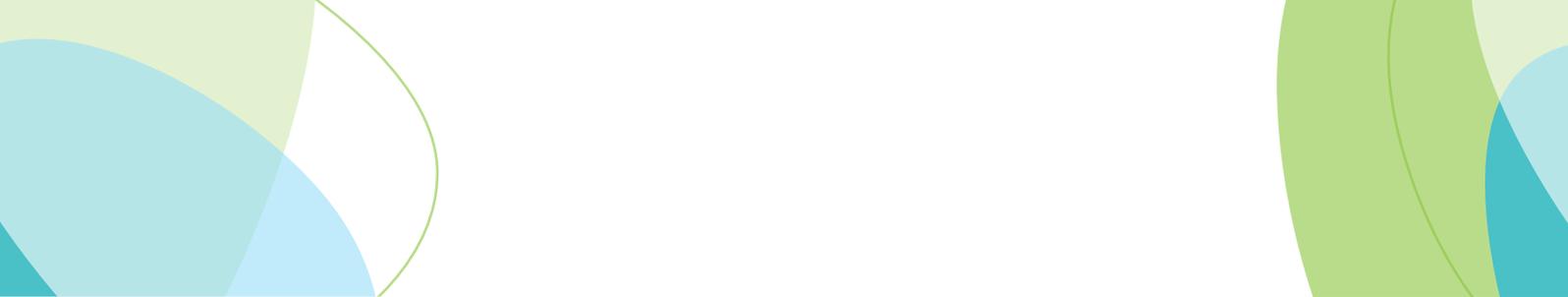
How does this new version allow you to involve other product managers?

The new ISO 14001 v2015 requires a life cycle prospect, placing the environment at the very heart of competitiveness. Therefore, I could translate the ecodesign concept to all the product managers from different business units, with the support of the head of the company. Indeed, life cycle thinking must begin with specifications : it is an opportunity to be different, to reduce our costs in long term and to acquire tools allowing us to choose our way of development.

Today, we work on identifying the environmental impacts of our product range. The environmental criteria must be included in their design so that we respond to the standard requirements and to the expectations regarding profitability of the company.

Laurence RONDREUX responsable QSE division ESP





WHY IS THIS A DRIVER FOR ECODSIGN?

By setting environmental management systems on an equal footing with other core business strategies, ISO 14001 provides a stronger link with the core activity and products of the company, thus **intrinsically strengthening the link between the new standard and the product approach.**

As the context, interested parties, risks and opportunities, and the enlarged scope will need to be considered during the management review, the top management will have to **incorporate this underlying notion of life cycle into its strategic management.**

In many companies, ecodesign projects are pilot projects and often fail to scale-up to a mainstream approach. By involving top management from the beginning of the process, the new standard will make the **mainstreaming of ecodesign** approaches easier and more structured.

Key concept 3: Evaluating Risks & Opportunities

WHAT DOES THIS NEW CONCEPT MEAN?

The 2015 version proposes a new and systematic risk and opportunities (R&O) approach. The risks and opportunities represent a business-as-usual method for strategic, financial or quality matters but are somehow less common in environmental management. By **transposing the business language of R&O to environmental aspects**, this new requirement puts environmental management on an equal footing with other strategic drivers within an organisation.

The organisation must now prove that they have determined, considered and, where necessary, addressed any risks (potential adverse effects – threats, §3.2.11) and opportunities (potential beneficial effects, §3.2.11) that may impact their EMS's ability to deliver its intended outcomes.

The integration of this risks and opportunities-based thinking offers several advantages:

- it sets **sound priorities**, therefore improving the likelihood of achieving objectives
- it promotes a **proactive culture of improvement**.

CASE STUDY EUROTAB OPERATIONS: OPPORTUNITIES IN MIGRATING TO ISO14001:2015

Since 1957, EUROTAB OPERATIONS has developed and produced detergent tablets for washing-machines and dishwashers, anti-limescale, disinfectant tablets and dehumidifiers. This independent company manufactures both for public and professional applications, and for brands and distributor brands. They have four factories located in France, Spain and Turkey.

When did you achieve ISO 14001 certification, and what motivated you to become certified?

EUROTAB OPERATIONS has been certified since 2010 to evidence our commitment to taking care of our environment.

Our tablets provide environmental benefits by:

- reducing packaging and the volume to be carried away, up to 40 times,
- ensuring our customers reduce waste in use through dosage control
- saving energy and water and minimizing waste in the production process

Environment is our concern!

How were you make yourselves ready to comply with the 2015 version as early as January 2016 ?

Our environment management system was ready to switch to the new version and as we had to extend the certification, we decided to do it.

It was a good time to work on our processes and improve them: everyone worked together to write a cross-disciplinary process, making it better than by duty.

In the end, being one of the first companies to change to the new version motivated our team. And that's a good way to show our quick reactions and our commitment to the environment !

Jean-Christophe PONCHON
Industrial Director Eurotab Operations

eurotab
INNOVATING TOGETHER

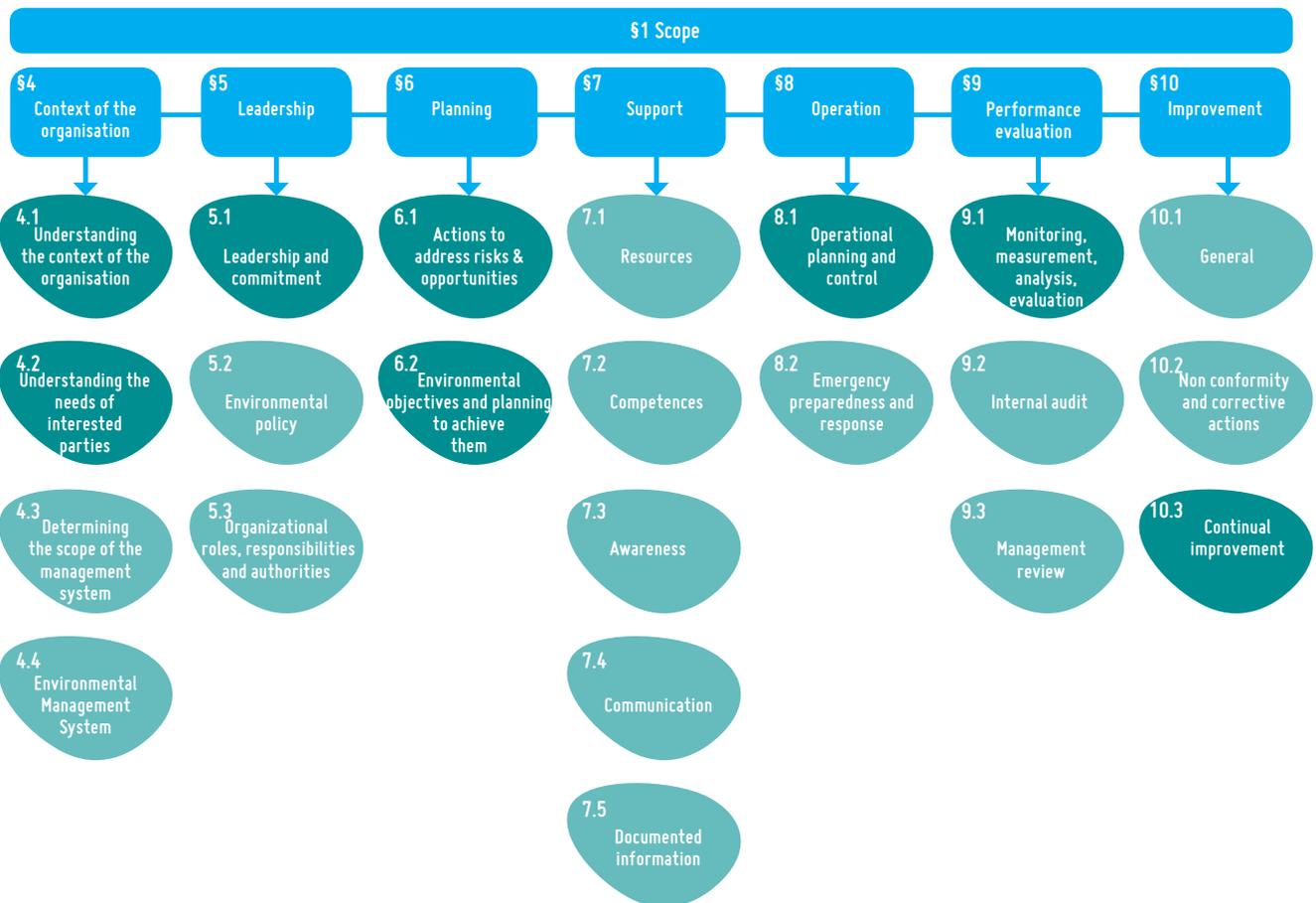
WHERE IS THE CHANGE?

As a systematic approach, R&O assessment requirement is at the heart of the Planning phase (§6); and is **present throughout the whole standard**.

The environmental issues identified through the application of a life cycle perspective will need to be analysed with a R&O approach, taking into account three key dimensions: significant environmental aspects; the market; and regulations. In practice, this means that the company must identify risks and opportunities related to environmental aspects (§6.1.2), compliance obligations (§6.1.3), context (§4.1) and interested parties (§4.2).

This concept is also present in the leadership notion, making top management accountable for the system reaching its intended outcome (§5.1).

Based on this initial R&O analysis, the organisation may set the objectives (§6.2), implement relevant actions and controls (§8), measure the performance (§9) and keep improving the system (§10).



Mapping of the changes within ISO14001:2015 chapters and sub-chapters with respect to the key concept “RISKS AND OPPORTUNITIES”

Planning: Actions to address risks and opportunities (§6.1)

The first step of planning is applying life cycle thinking to the products, services and activities of the organisation to identify which of these elements interact significantly with the environment.

Environmental aspects (§6.1.2)

As stated in clause 6.1.2, “Within the defined scope of the environmental management system, the organisation shall determine the environmental aspects of its activities, products and services that it can control and those that it can influence, and their associated environmental impact, considering life cycle perspective”. The new version widens the scope for the identification of (significant) environmental aspects, requiring the identification at each life cycle stage of the organisation’s environmental impacts and its related degree of control or influence.

‘How detailed does the organisation has to be to make the life cycle exercise effective?’

The inclusion of life cycles in ISO 14001:2015 doesn’t necessarily mean an intricate and heavily detailed analysis. The standard even goes so far as stating in Annex A that a detailed life cycle assessment is not required. “... thinking carefully about the life cycle stages that can be controlled or influenced by the organisation is sufficient”.

One or many of these life cycle stages may indeed become more important and carry strong environmental impacts, depending on many factors, including:

- product or sector
- supply chain complexity and its global distribution
- proximity to the end market
- energy consumption during use phase

These occurrences of hot spots in the life cycle brings a whole new dimension to the assessment of environmental significant aspects.

Even though the standard is steering organisations away from a detailed life cycle assessment in the initial stages, the life cycle perspective allows the organisation **to envision the big picture** in its entirety and find new opportunities including:

- new design possibilities
- energy savings
- new synergies in the supply chain
- material savings

This life cycle perspective also means that any conscious decision to **exclude some life cycle stages from the management system scope needs to be supported with further evidences** demonstrating that either the environmental impact, or the level of influence is not significant enough.

Efficient analysis of life cycle stages to identify relevant significant environmental aspects becomes increasingly important as part of operational planning and control (§8.1).

It is now specified that outsourced processes identified as environmentally significant need to be controlled or influenced by the organisation. Further, strong controls with respect to environmental requirements need to be defined for the development of the product or service at each life cycle stage (development, delivery, use, end-of-life treatment, etc.), as well as criteria defined for the procurement practices at each stage.

This requirement §8 coupled with requirement §6.1.2 provide further evidence of the **life cycle perspective that permeates through ISO 14001:2015**. Without imposing any mandatory approach, to achieve the standard, the standard requires that the organisation deeply reconsiders its position and impact, taking into consideration complex and interrelated connections along its value chain.

General (§6.1.1)

The organisation shall determine the risks and opportunities related to interested parties, their needs and expectations. The comparison between the significant environmental aspects and the interested parties' expectations and needs is an important analysis to evaluate gaps leading to potential risks and opportunities to tackle.

INPUTS FROM A LIFE CYCLE ASSESSMENT PRACTITIONER: A FUNCTIONAL PERSPECTIVE OPENS NEW WORLDS

While Life Cycle Assessment is often applied to provide metrics, its primary goal is to enable the comparison of products or organizations. To enable such comparison between widely different products (e.g. a car and a bike) in terms of their physical characteristics, life time, etc. products have to be compared on a similar basis: the function they provide (e.g. transporting one person over one km). This functional perspective encourages thinking in terms of the service provided by a product rather than about the product itself (e.g. bike or car sharing), hence opening up new possibilities for designing new products or new business models.

WHY IS THIS A DRIVER FOR ECODSIGN?

Because the new version of the standard requires the assessment of risks and opportunities with regard to the **market positioning** of the company, it implies better **strategic integration of the EMS** (cf. chapter on leadership) **and a closer link with the core activity – and thus the products** – of the company.

No organisation exists in a vacuum but is part of a complex web of buying, selling and exchanging. At each transactional point, there is an opportunity to make a decision that favours the minimization of negative, or promotion of positive environmental impacts, as well as an opportunity to increase competitiveness through environmental performance. By explicitly positioning the **design stage of products as key to managing the environmental performance**, the new standard clearly offers the opportunity to manage risks and opportunities while making ecodesign happen.

Key concept 4: Assessing performance beyond compliance

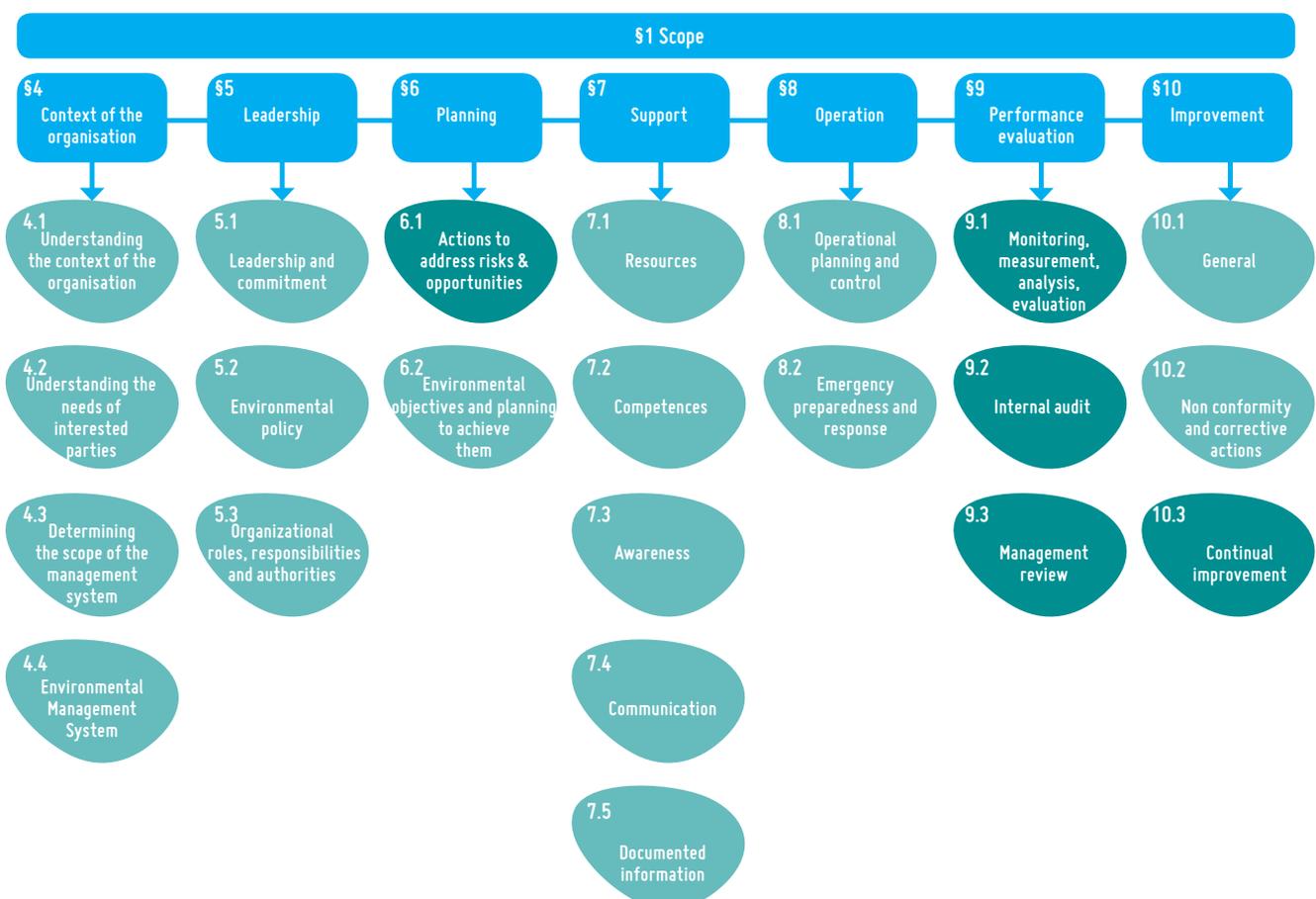
WHAT DOES IT MEAN?

Environmental **performance** is a new required outcome of the EMS in the 2015 version of ISO 14001. This represents an important change from a previous “defensive” standard (compliance-oriented and prevention of pollution) to a **“proactive”, result-oriented version that promotes continual improvement** not only of the EMS itself, but also and foremost of the internal and external environmental performance. The organisation shall now demonstrate precise results regarding the improvement of environmental performance rather than a vague statement about environmental protection. This aspect is essential to ensure the effectiveness and the overall objective of the EMS to achieve environmental and socio-economic balance.

- the evaluation of performance is an important change that can only be achieved through the **use of indicators**.
Performance evaluation requires the organisation to assess whether the results measured meet the expectations set in the objectives.
- the environmental performance evaluation will need to capture any **trend of non-conformities and corrective actions**, monitoring and measurement results, conformity with the audit results and compliance obligations, exactly as in a quality management system.
- the management review suggests opportunities for improvement and potential integration of environmental management with other business processes.

WHERE IS THE CHANGE?

Besides the new chapter (§9) dedicated to performance, as explicitly mentioned, this concept is implicitly present at every plan – do – check – act stage in the system.



Mapping of the changes within ISO14001:2015 chapters and sub-chapters with respect to the key concept “PERFORMANCE”

Scope (§1)

One of the first elements mentioned in the standard is **the enhancement of environmental performance as an expected outcome**. This explicit purpose goes hand-in-hand with the achievement of environmental objectives (closely linked to the concept of performance).

Performance evaluation (§9)

The basic definition of performance given by the standard is **“measurable results”** (§3.4.10). Meanwhile, the environmental performance is defined as **“performance related to the management of environmental aspects”** (§3.2.2). It is therefore possible to say, without taking too much risk, that an enhanced environmental performance can be stated by observing encouraging results on the management of significant environmental aspects.

- Following a life cycle analysis, the transport logistics have been redefined and optimized to reduce the CO₂ of the organisation, reducing CO₂ emissions by x%.

Additionally, enhanced performance can be observed when the results comply with the environmental objectives (§6.2.1) that have been defined on the basis of **significant environmental aspects** (§6.1.2).

- The objective was to reduce our plastic waste by 25%: results show a reduction of 2.4 tons of plastic waste compared to last year, representing 25% of our waste
- By December 2016, 100% of employees had been trained on the significant environmental aspects of the organisation as specified in the objectives set at the end of 2015
- 50% of suppliers selected meet our specified environmental criteria as targeted in the objectives

Environmental aspects (§6.1.2)

One crucial element to take into consideration as part of the performance concept is environmental aspects. Using a life cycle approach allows identification of the correct aspects to be considered, and is therefore crucial for setting the relevant objectives for the coherence and performance of the system. See Key Concept 3.

INPUTS FROM LIFE CYCLE ASSESSMENT PRACTITIONERS: RELEVANT SYNTHETIC INDICATORS

Life Cycle Assessment provides synthetic indicators showing the key impacts of an activity. These indicators differ from classical activity-based indicators (e.g. the quantity of waste per year), and provide information on impacts, e.g. acidification or impact on ecosystems quality. By focusing on the induced impacts, they allow organisations to understand whether one ton of plastic waste is worse for the environment than one ton of paper waste, and thus focus on the activities and impacts that really count.

Management review (§9.3)

There is a strong emphasis on the term “opportunities” for improvement in the management review. The organisation shall review the opportunities to improve integration of the environmental management system in business processes and in the core strategy of the organisation. The new version mentions that design processes are key for continual improvement of the environmental performance over the life cycle of the company activities and products.

Improvement (§10)

Logically, the concept of performance is strongly embedded in the requirement for improvement (§10), as suggestions for improvement will be formulated based on the observation of a potential gap between performance objectives and results. The coupling of the notion of continual improvement with that of environmental performance sets the ground for an ecodesign approach within the organisation.

CASE STUDY « PERFORMANCE » STARLING GENEVA HOTEL & CONFERENCE CENTRE

« The consolidation of environmental performance indicators, based on visible and measurable results, has led to a significant analytical shift since 2015. Achieving tangible results requires significant investment in a delicate and unstable economic context. The 'performance' approach required us to search for external solutions and we took the opportunity to collaborate with our partners to benefit from their expertise and truly improve our environmental performance»

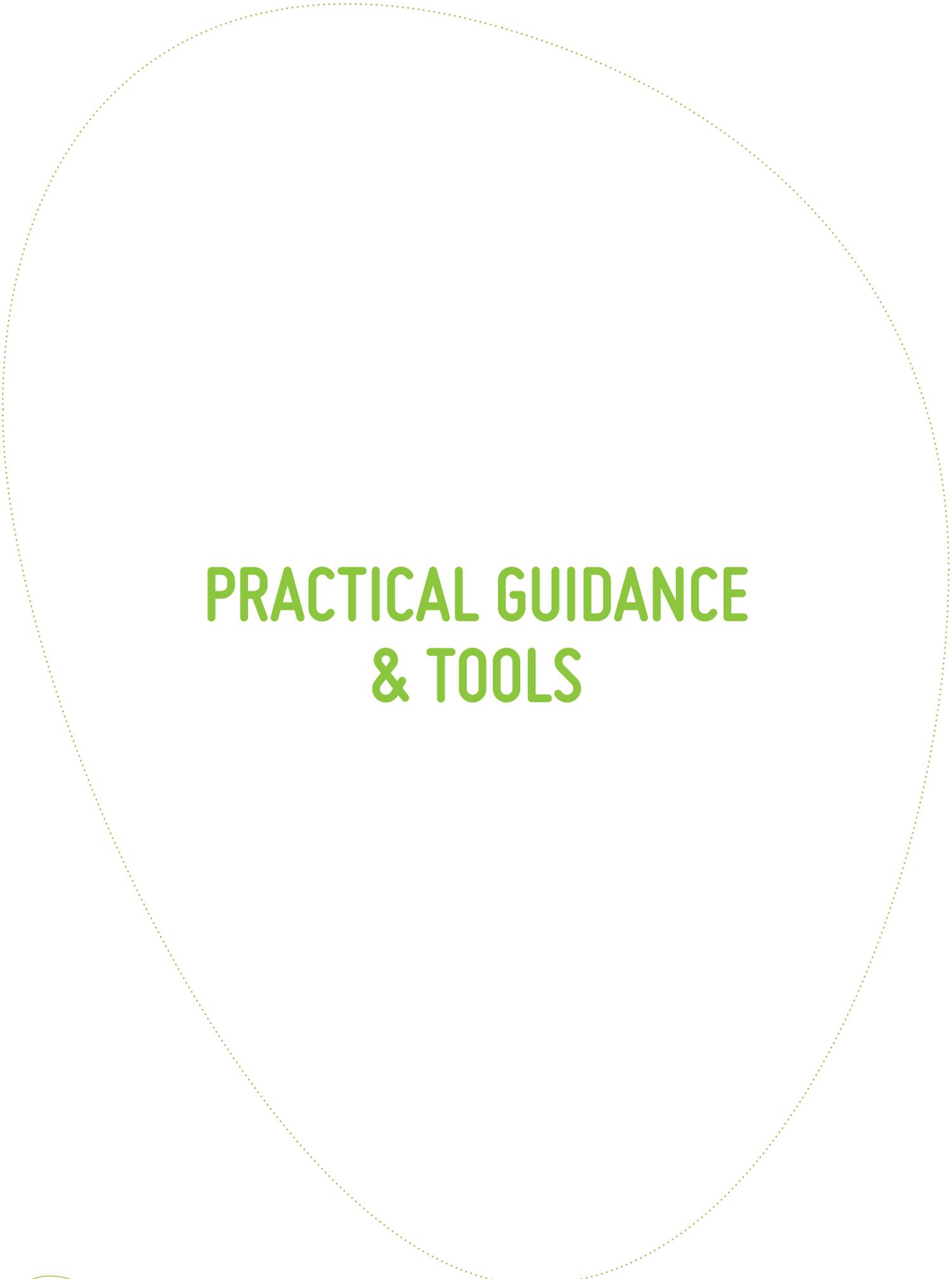
Sylvie Larenaudie
Responsible Quality & Environment



WHY IS THIS A DRIVER FOR ECODSIGN?

The notion of environmental **performance** is key to ecodesign. By moving environmental management **beyond compliance** and pollution prevention, the new standard clearly opens the door for proactive and anticipative improvement approaches that are **also key for the ecodesign approach**. The notion of continual improvement switches from the improvement of the EMS as a system to **what really matters** i.e. continual improvement of the outcome of the EMS in term of environmental performance.





PRACTICAL GUIDANCE & TOOLS

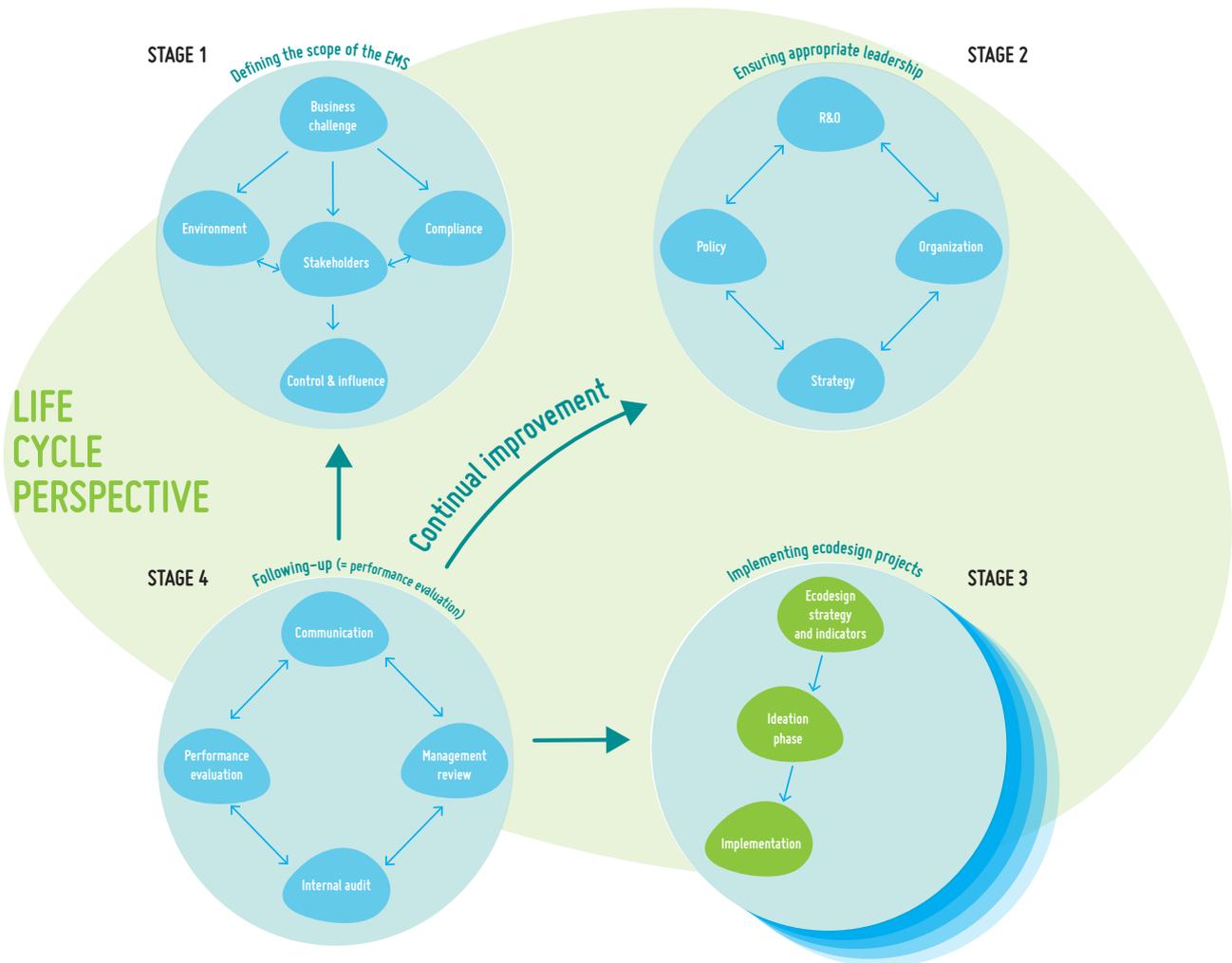
OVERVIEW OF THE WORKFLOW

For the implementation of ISO 14001:2015 standard, ENEC proposes the following workflow method, an initiative to reconcile the traditional EMS approach with a life cycle and ecodesign approach.

The workflow includes 4 main stages:

- (1) Defining of the scope of the EMS
- (2) Ensuring a strong leadership to the EMS
- (3) Implementing of ecodesign projects and
- (4) Following up

as detailed in the figure below. Management review is performed on a regular basis to ensure continual improvement of the system.



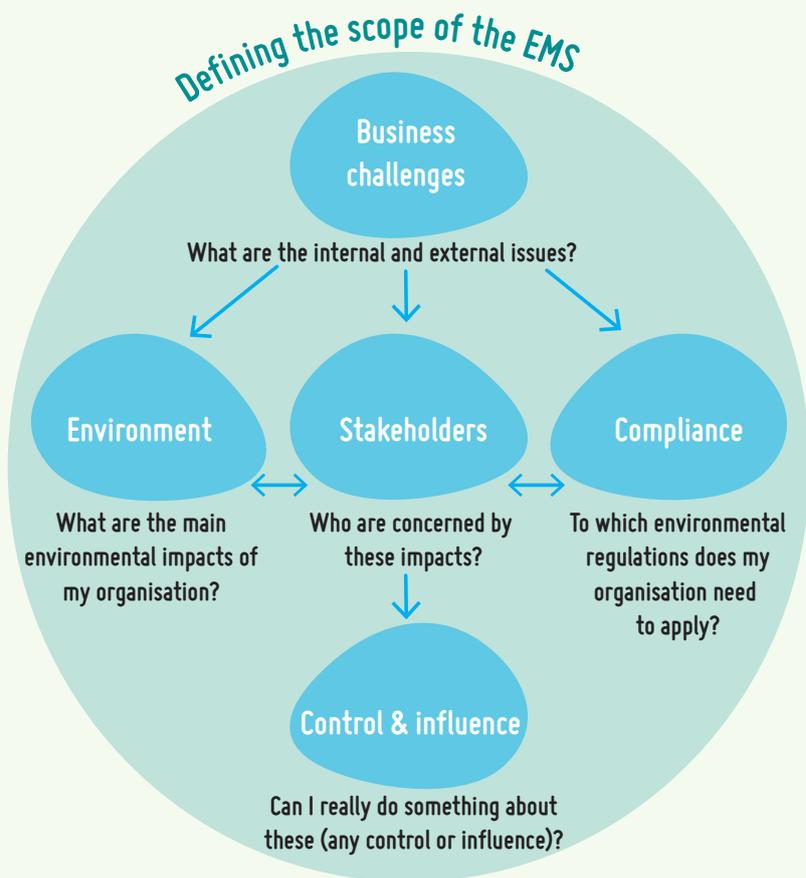
In the following chapters, ENEC will suggest several tools to guide organisations in the efficient implementation of each stage outlined in the workflow. The tools presented are not exhaustive, each may be adapted to the organisation depending on the complexity of the organisation's processes, size, accessibility of data and information.

STAGE 1

DEFINITION OF THE SCOPE OF THE EMS

The organisation shall determine the boundaries and applicability of the environmental management system to establish its scope considering the life cycle perspective

The EMS credibility depends largely on the appropriate definition of the scope. The organisation takes into consideration the environmental aspects of its activities, products and services it can either control or influence considering a life cycle perspective



INPUT

- Visual mapping of the life cycle from suppliers to clients
- Stakeholder mapping
- Life Cycle inventories of products or services made by the organisation

OUTPUT

- Significant environmental aspects with a life cycle perspective
- Table of stakeholder expectations, including the level of influence or control of the company as well of the level of compliance

DEFINITION OF THE SCOPE OF THE EMS

BUSINESS CHALLENGES:

What are the internal and external issues?

Business challenges

Objectives

To identify the external issues (political, legal, environmental, etc.) and internal issues (cultural, financial, etc.) impacting the environmental management system, using life cycle thinking.

How

1. Analysing the strengths and weaknesses for the internal issues
2. Analysing the opportunities and threats for the external issues

Results: understanding the consequences of business challenges on the organisation's environmental goals

ISO 14001:2015 related chapter

4.1, 4.2, 4.3, 4.4

Input data

Functions/ Actors

- Top management
- Marketing and sales
- Design department
- Environmental management

Tools

- Mapping of the material and energy flows (life cycle)
- Stakeholder mapping
- Materiality analysis
- Regulatory and technological watch
- Market Analysis
- Competitors' analysis

Questions to raise by the auditor with regards to Life Cycle thinking

- Have the business challenges been evaluated taking the internal stakeholders' inputs into consideration?
- Are the environmental challenges in line with the activities, products or services of the organisation?

Output data

List of business challenges throughout the life cycle involving the environmental management system

DEFINITION OF THE SCOPE OF THE EMS

ENVIRONMENT:

What are the Significant Environmental Aspects?

Environment

Objectives

To determine the environmental aspects of the organisation's activities, products and services and their associated environmental impacts, considering a life cycle perspective.

How

1. Identifying the organisation's activities, products, services.
2. Defining which products/services (reference product) will be selected for the environmental assessment.
3. Choosing a relevant method to carry out the environmental assessment considering a life cycle perspective.
4. Identifying the relevant indicators, i.e. from an environmental perspective, for the activity.

Note: the organisation is not required to conduct a Life Cycle Assessment (LCA), as described in ISO 14040.

ISO 14001:2015 related chapter

6.1.2

Input data

Inventory data of the product, process or service over its life cycle

Functions/ Actors

- Environmental Manager
- LCA expert, ecodesign : internal, external
- Design department.

Tools

- The Pareto method
- Simplified LCA or qualitative LCAs;
- Check list, eco-label,
- Matrix approaches;
- Single indicator footprint (carbon footprint) ;
- Single score approaches
- LCA (complete or simplified);
- Etc.

Questions to raise by the auditor with regards to Life Cycle thinking

- Is the choice of elements (product/service/activities) relevant with regards to the activities of the organisation?
- Is the method/tool chosen for the environmental assessment relevant for the organisation?
- Is the assessment comprehensive and carried out with a life cycle perspective?

Output data

Summary table (Simplified Qualitative Life Assessment (SQLA)) listing the environmental aspects and the most significant ones.

DEFINITION OF THE SCOPE OF THE EMS

STAKEHOLDERS:

Who are the stakeholders from a life cycle perspective?

Stakeholders

Objectives

To identify the internal and external interested parties from a life cycle perspective in the EMS.

How

1. Taking into consideration the internal and external actors in the value chain to have a comprehensive picture of the organisation's stakeholders.
2. Selecting the relevant parties that affect, influence or are being affected by its activities/products/services in a life cycle perspective, going from raw materials extraction to end of life (e.g. states, environmental non-profit organisations, suppliers, customers etc.)

ISO 14001:2015 related chapter

4.1 and 4.2

Input data

External input:

information on regulations, suppliers, NGOs, investors, competitors, laboratories, banks, insurance companies, notation agencies, State, standardisation organisations, professional networks, retailers, clients, recycling companies, etc.

Internal input:

Information on top management, environmental management, marketing, R&D, procurement, design department, production, logistics, administration, sales, etc.

Functions/ Actors

Top management, marketing, design department, environmental manager, principals, suppliers

Tools

- Porter's five forces
- ISO 26000
- NF X 30-264

Questions to raise by the auditor with regards to Life Cycle thinking

- Is there a complete view of interested parties from a life cycle perspective?
- How have the expectations of interested parties been collected?

Output data

Mapping: interested parties, related expectations, and the level of control of the organisation.

DEFINITION OF THE SCOPE OF THE EMS

COMPLIANCE:

What are the obligations my organisation needs to comply to?

Compliance

Objectives

To identify which compliance obligations are applicable to the organisation.

How

1. Identifying by which stakeholders' expectations (previously identified) the organisation is bound (engagement signed? codes of conduct signed? client's criteria on a product? etc.)
2. Identifying which environmental regulations relate to the organisation's activities, product or service
3. Identifying how these compliance obligations apply to the organisation and if compliant

ISO 14001:2015 related chapter

4.2, 6.1.3

Input data

- Stakeholders' related expectations list
- List of environmental aspects

Functions/ Actors

- Environmental department
- Legal
- Marketing
- Sales
- Purchasing

Tools

- Web tools : newsletters, compliance watch subscriptions, etc.
- National, european (<http://eur-lex.europa.eu/>), or international legal search tools

Questions to raise by the auditor with regards to Life Cycle thinking

- How did the company evaluate its compliance with its identified obligations?
- Is there a process in place to ensure regulation watch and compliance?

Output data

- Regulatory basis
- Regulatory watch
- Regulatory compliance analysis

DEFINITION OF THE SCOPE OF THE EMS

CONTROL & INFLUENCE: Can I really act on it?

Control & influence

Objectives

To identify the level of control and influence the organisation has on the stakeholders.

How

1. Meeting with project team
2. Rating of the levels of control and influence (e.g. no influence, influence, partial control, control)

ISO 14001:2015 related chapter

4.1 and 4.2

Input data

External input:

Information on suppliers, NGOs, investors, competitors, laboratories, banks, insurance companies, notation agencies, State, standardisation organisations, professional networks, retailers, clients, recycling companies, etc.

Internal input:

Information on top management, environmental management, marketing, R&D, procurement, design department, production, logistics, administration, sales, etc.

Functions/ Actors

Top management, marketing, design department, environmental manager, principals, suppliers

Tools

- Porter's five forces
- ISO 26000
- NF X 30-264

Questions to raise by the auditor with regards to Life Cycle thinking

- Is the related interested parties' level of control or influence analysis relevant?

Output data

Mapping: interested parties, related expectations, and the level of control of the organisation and the level of compliance

STAGE 2

ENSURING APPROPRIATE LEADERSHIP

The organisation shall establish, implement and maintain the process(es) needed to meet the requirements. Beyond the process side, the top management is expected to take leadership and commitment towards the environmental management system. For the first time, the top management shall take accountability for the effectiveness of the management system, bringing the EMS (environmental management system) to a strategic and core business level.



INPUT

Scope of the EMS

Key environmental aspects to tackle

OUTPUT

Identification of risks and opportunities

Definition of roles and responsibilities

Appropriate motivation

Definition of project processes and gates

ENSURING APPROPRIATE LEADERSHIP

RISKS & OPPORTUNITIES

Do all these elements identified in stage 1 represent any risks and opportunities for my organisation?

R & O

Objectives

To determine the positive or negative influence these elements have on the environmental management system.

How

Carrying out a risks and opportunities analysis of:

- Environmental aspects (can be considered as the analysis of significant ones)
- Compliance obligations
- Business challenges
- Stakeholders in a life cycle thinking

1. Mapping the relationship between the environmental aspects of the different life cycle stages and the interested parties.
2. Identifying the potential contradictions between the expectations and compliance obligations from interested parties and the significant environmental aspects.

ISO 14001:2015 related chapter

4.3, 4.4, 6.1.1

Input data

Mapping of relevant interested parties
Summary table of environmental aspects and significant ones
Regulatory basis (listing the compliance obligations)
Business challenges analysis

Functions/ Actors

Top management
Marketing
Design department
Environmental management

Tools

- SWOT, PESTEL
- Gravity / probability analysis
- Regulatory basis and watch, suppliers and technological strategic watch
- Market analysis (clients and competitors)
- XXX size of the impacts compared to regional/.....

Questions to raise by the auditor with regards to Life Cycle thinking

- What is the method used for the risks and opportunities analysis?
- What risks and opportunities has the organisation analysed along the value chain?
- Is there documented information on the scope and the potential exclusions of elements?

Output data

Mapping of risks and opportunities

ENSURING APPROPRIATE LEADERSHIP

ENVIRONMENTAL POLICY

Is the vision clearly formalized and communicated?

POLICY

Objectives

To clearly state the commitments of top management to support and enhance the environmental performance of the organisation.

Note: The policy will be the guidance for decisions and strategic choices for ecodesign.

How

Including in the environmental policy the following:

- continual improvement of the environmental management system to enhance environmental performance on the life cycle of the organisation
- commitment to fulfill its compliance obligations (legal and related to the interested parties)
- the nature, scale and environmental impacts of its activities, products and services

ISO 14001:2015 related chapter

5.1; 5.2

Input data

- Documented information of the EMS scope
- Organisation's product/service Policy
- Organisation's resources (internal capability: human resources, financial and technical)

Functions/ Actors

Top management, environmental manager, and design department

Tools

Ecodesign guidance
Checklists

Questions to raise by the auditor with regards to Life Cycle thinking

- Is the policy relevant with regards to
- Risks and opportunities previously identified
 - Organisation's level of influence and control
 - Internal capabilities

Output data

An ecodesign policy communicated to the internal and external relevant interested parties along the value chain.

ENSURING APPROPRIATE LEADERSHIP

ORGANISATION

How do you set up an appropriate project team and ensure commitment from top management?

ORGANIZATION

Objectives

To set an adequate form of organisation and motivation so that company actors really act and the environmental manager is not alone in a “silo”

How

1. Connecting actors horizontally (actors from different department) and vertically (top management and employees)
2. Setting a sustainability committee that is in charge of defining and monitoring sustainability projects within the company
3. Or organising multiple green relays within the different department of the organisation (reporting to the environmental manager)
4. Integrating rewards, bonuses, reports to the CEO, to motivate people to act

ISO 14001:2015 related chapter

7.1, 7.2, 7.3, 7.4

Input data

Key actors and motivated actors within the company

Functions/ Actors

All

Tools

Questions to raise by the auditor with regards to Life Cycle thinking

Is there a formalised type of organisation that connects the environmental department with other departments — unformal connection is not enough?

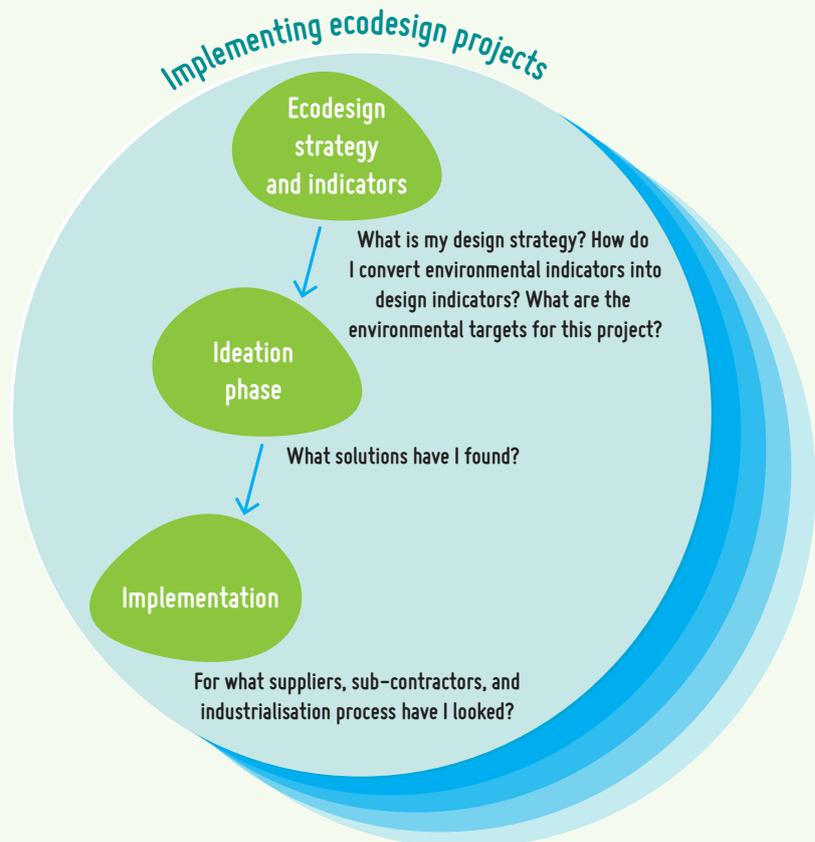
Output data

Organisational system for environmental action within the company interested parties along the value chain.

STAGE 3

IMPLEMENTING ECODESIGN PROJECTS

Consistent with a life cycle perspective, the organisation shall establish controls, as appropriate, to ensure that its environmental requirement(s) is (are) addressed in the design and development process for the product or service, considering each life cycle stage (8.1.a ISO14'001:2015) (in particular for the selection of suppliers and sub-contractors).



INPUT

Mapping of environmental risks and aspects.
Mapping of interested parties
Listing of opportunities for environmental improvement, such as development of new products.

OUTPUT

Certified and ecodesign product/
service ready to be released to the customers with a comparative environmental analysis.

IMPLEMENTING ECODESIGN PROJECT

ECODESIGN STRATEGY & INDICATORS

What is my design strategy?

Ecodesign
strategy
and indicators

Objectives

How do I convert environmental indicators into design ones? What are the environmental targets for this project?

To translate the environmental policy and risks/opportunities analysis into ecodesign roadmap.

To define an environmental strategy for the products and services.

How

1. Defining ecodesign environment criteria by reflecting:
 - 1.1 the environmental assessment
 - 1.2 the interested parties' analysis
 - 1.3 the implementation capability of these criteria.
2. Presenting these indicators in a comprehensive way to the different functions taking part in the development processes of product/services

ISO 14001:2015 related chapter

8.1

Input data

- Report of the products and reference product's environmental assessment report
- Scope of the EMS
- Product / service of reference
- Human, financial, technical resource analysis

Functions/ Actors

- Top management
- Environmental manager
- Marketing
- Design department

Tools

- Ecodesign guidance
- Ecodesign strategy wheel
- Ecodesign checklists
- Strategic analysis

Questions to raise by the auditor with regards to Life Cycle thinking

Coherence between the indicators selected related to the environmental strategy of product/service development and the output of the planning phase?

Output data

- Work planning / action plan
- Team trained to ecodesign
- Awareness campaign with the different departments
- Follow-up indicators for the project
- Ecodesign strategies adopted for the development of the product
- Objectives to reach

IMPLEMENTING ECODESIGN PROJECT

IDEATION PHASE: What solutions have I found?

Ideation
phase

Objectives

To look for the ideas and concepts to significantly reduce the environment impacts of the organisation.
To integrate environmental thinking in the development processes of products/services.

How

1. Integrating ecodesign strategies for the development or modification of one product with the pre-existing development program.
2. Finding environmental, technical, financial optimal solutions.
3. Conceptual and environmental modelling of the technical solutions that have been selected and prioritized at brainstorming / creativity meetings.

ISO 14001:2015 related chapter

8.1

Input data

- Environmental policy
- Follow – up indicators for the project
- Technological and suppliers' strategic watch

Functions/ Actors

Project team (Design department, R&D, Marketing, Procurement, Production, Environment, etc.).

Tools

- Brainstorming/creative tools
- CAD software
- LCA software or qualitative environmental assessment methods

Questions to raise by the auditor with regards to Life Cycle thinking

- Are the solutions in line with the objectives set at the definition of the EMS scope and chosen at the leadership phase and efficiently followed-up by the indicators?

Output data

Conceptual and environmental modelling based on previously selected development ideas.

IMPLEMENTING ECODESIGN PROJECT

IMPLEMENTATION:

What suppliers, sub-contractors, and industrialisation process have I identified?

Implementation

Objectives

To industrialize the ecodesigned product/service.

How

1. After determining the requirements for the product / service to be offered to the customers, the organisation shall communicate these requirements to the suppliers and sub-contractors.
2. Verifying that the product/service criteria as mentioned in the functional specification have been met.

ISO 14001:2015 related chapter

8.1

Input data

- Functional prototype
- Functional specification
- Prototype's environmental assessment report

Functions/ Actors

- Project team (Design department, R&D, Marketing, Procurement, Production, Environment, etc.)
- Suppliers
- Sub-contractors

Tools

- Questionnaires
- Guidelines
- List of substances
- Specification for raw material, component or sub-element
- LCA software or qualitative environmental assessment methods

Questions to raise by the auditor with regards to Life Cycle thinking

Are the selected solutions compliant with the environmental strategy?

Output data

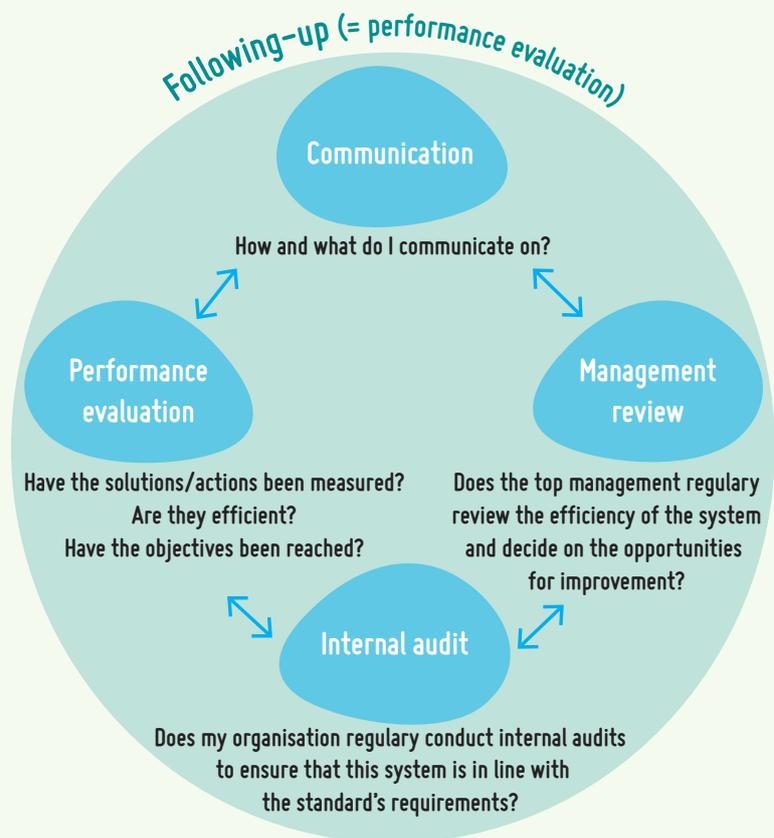
- Supplier feedback (questionnaires replies, etc.)
- Certified product ready to sell

STAGE 4

FOLLOW UP

The organisation shall monitor, measure, analyse and evaluate its environmental performance and the effectiveness of its environmental management system.

(9.1.1 ISO 14'001 :2015)



INPUT

Scope and leadership of the EMS are defined.
Ecodesign product/service ready to be released to the customers.

OUTPUT

Comparative assessment between the reference product/service and the ecodesign output.
Perspective for the project follow-up (other products to develop, improvement of the ecodesign process, widen the scope, ecodesign of the product in a second version, etc.).
New or reviewed action plan for the environmental improvement performance of the product/service.

IMPLEMENTING ECODESIGN PROJECT

PERFORMANCE EVALUATION

Have the solutions/actions been measured? Are they efficient?
Have the objectives been reached?

Performance
evaluation

Objectives

To measure the environmental performance of product/service and consolidate the ecodesign approach

How

1. Defining the planning for monitoring and measuring
2. Conducting a comparative environmental assessment before the release of product/service to avoid any transfer of negative impacts from one to another aspect or from one life cycle stage to another.

ISO 14001:2015 related chapter

9.1

Input data

- Functional prototype
- Functional specification
- Prototype's environmental assessment report

Functions/ Actors

- Project team (Design department, R&D, Marketing, Procurement, Production, Environment, etc.)
- Suppliers
- Sub-contractors

Tools

- Questionnaires
- Guidelines
- List of substances, checklists
- LCA software or qualitative environmental assessment methods

Questions to raise by the auditor with regards to Life Cycle thinking

Are there any transfer of negative impacts from one to another aspect or from one life cycle stage to another?

If yes, can the organisation justify/measure a global reduction of the environmental impact?

Output data

Comparative environmental assessment of product/service

FOLLOW UP

INTERNAL AUDIT

Internal audit

Does my organisation regularly conduct internal audits to ensure that this system is in line with the standard's requirements?

Objectives

To ensure that the environmental strategy, policy, and objectives are met as per standard.

How

The organisation shall verify whether

1. the EMS complies with the standard's requirement
2. the environmental management system complies with the environmental strategy for product/service
3. the resources for its implementation are sufficient

ISO 14001:2015 related chapter

9.2

Input data

- EMS scope
- Environmental policy and objectives
- Eco-design strategy and indicators
- Performance measurement report

Functions/ Actors

- Internal auditor
- Project Team

Tools

- ISO 19011:2011

Questions to raise by the auditor with regards to Life Cycle thinking

Does the organisation have an internal program?
How is the person in charge qualified to conduct an internal audit?

Output data

Internal audit report

FOLLOW UP

COMMUNICATION

How and what do I communicate on?

Communication

Objectives

To translate the ecodesign project into a comprehensive communication for the stakeholders.

How

Publishing environmental communications to be :

1. Relevant to the environmental issues related to the organisation's activities, expectations of stakeholders and EMS scope
2. Precise
3. Verifiable
4. Trustworthy

ISO 14001:2015 related chapter

7.4

Input data

- Environmental results
- Business challenges
- Risks and opportunities analysis output
- Stakeholder expectations

Functions/ Actors

- Project team (Design department, R&D, Marketing, Procurement, Production, Environment, etc.)

Tools

- ISO 14020:2000 – Environmental labels and declarations – General principles
- ISO 14021:2016 Environmental labels and declarations – Self-declared environmental claims (Type II environmental labelling)
- ISO 14024: 1999 Environmental labels and declarations – Type I environmental labelling – Principles and procedures
- ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures

Questions to raise by the auditor with regards to Life Cycle thinking

Are the environmental policy and its outcomes, with the elements communicated by the organisation?

Is the communication delivered by the organisation relevant, correct, verifiable, trustworthy?

Output data

One or more communication reports or notes

FOLLOW UP

MANAGEMENT REVIEW

Does the top management regularly review the efficiency of the system and decide on the opportunities for improvement?

Management review

Objectives

To review the organisation's environmental management system with the top management at planned intervals
To ensure its continuing suitability, adequacy and effectiveness.

How

1. Defining the opportunities for improvement based on the environmental analysis, internal audit reports.
2. Implementing the necessary actions to achieve the expected results.

ISO 14001:2015 related chapter

9.3 et 10

Input data

- Market analysis: clients, competition
- Documented information on environmental performance
- Internal audit reports
- Product's sales turnover

Functions/ Actors

- Project team (Design department, R&D, Marketing, Procurement, Production, Environment, etc.)

Tools

- Boston Box
- Business model framework
- SWOT

Questions to raise by the auditor with regards to Life Cycle thinking

Are the management review outputs coherent with the analysis of environmental performance?

Is there other documented information on continual improvement efforts?

Output data

Action plan for the improvement of environmental performance of product/ service.
New or updated environmental objectives

