

Steps in identification and evaluation of ISO 14001 environmental aspects

Table of Contents

Introduction	3
What is environmental aspects management?	3
Why is environmental aspects management important in ISO 14001?	4
Six-step environmental aspects management	4
How to set criteria for the evaluation	5
How to identify and classify environmental aspects.....	6
How to evaluate environmental aspects.....	6
How to deal with significant environmental aspects in your EMS	7
Procedures for managing environmental aspects.....	8
Application of environmental aspects in different industries	8
Conclusion	9
Sample of documentation templates	9
References	10
About the author	10

Introduction

The identification and evaluation of environmental aspects is the critical first step in [ISO 14001](#) implementation; it determines everything that happens afterward. All future steps in the Environmental Management System (EMS) will be done according to the results of this assessment. Many people are worried about how to do it, where to start, and how deep they should go with the assessment, but there shouldn't be so many worries - if you apply a systematic approach, you will be able to identify flaws, remove them with future reevaluation, and improve your system.

You need to identify the environmental aspects of your organizational activities, products, and services within the defined scope of the Environmental Management System. You only need to consider the environmental aspects that your organization has control over or can influence in some way. You also need to take into account not only your planned activities, but also changes such as new developments, modified activities, and the lifecycle perspective of your products and services. You also need to consider abnormal conditions and potential emergency situations in your assessment. Once you determine all the environmental aspects, you need to apply a methodology for the evaluation of environmental aspects and determine which of the aspects are significant for your organization. Additionally, environmental aspects and environmental impacts, criteria used to determine the environmental aspects that are significant, and the significant environmental aspects needs to be documented and up to date.

This white paper will go through this important method so that you can better implement the environmental aspect identification and evaluation process within your organization, to improve your environmental performance and to control your environmental impacts.

What is environmental aspects management?

Simply put, an environmental aspect is any part of your company's activities, products, or services that interact or can interact with the environment, either positively or negatively. This could be chemicals that are emitted into the air from a vent during one of your processes, or chemicals that could be expelled in your wastewater. This could also be taking into account the use of resources that your processes utilize, or the environmental effect of the amount of waste you dispose of.

So, environmental aspect management is the process of identifying all of the ways that your organization interacts with the environment, classifying which of these aspects can have a significant environmental impact, and then putting in place the controls to reduce or eliminate the negative environmental impacts that could be caused by your organization. Planning to address these negative impacts, along with the environmental risks you have identified, will help to improve your overall environmental performance.

For more on the difference between risks and environmental aspects, see this article: [ISO 14001 risks and opportunities vs. environmental aspects](#).

Why is environmental aspects management important in ISO 14001?

The reason to determine the environmental aspects for the organization is so that you can detect where the most significant environmental impacts are, and then take the necessary actions to mitigate or eliminate them. This way, you can define which are the targeted processes that need to be improved in order to protect the effects of your products, services, and activities in the environment.

This is also a reason to keep environmental aspects up to date, as is required by the standard. If your processes change, and you do not update how a new process affects the environment, then the information you are collecting and using to judge the process for improvement is lacking. This may, in turn, lead to poor results in your improvement activities. By knowing and controlling the environmental aspects, you are also controlling the environmental risks associated with your activities, thereby providing good risk assessment and management for the areas where your company processes can impact the environment.

The whole idea of the ISO 14001 Environmental Management System is to give your company a framework for assessing how your processes, products, and services affect the environment, and give guidance on how the company can reduce its negative impacts and increase its positive impacts. Determining and assessing the environmental aspects of your processes is the first step in planning to make a positive change in your company, your surroundings, and the world.

Six-step environmental aspects management

These steps can most easily be seen as a six-step process for environmental aspect management. This process goes as follows:

1. **Determine the context of the organization** – Before doing anything else in the EMS, you need to define exactly what organization you are creating the EMS for. This focus will follow through to the aspects as they are defined within the context and scope of the organization.
2. **Choose a methodology for identification of the environmental aspects** – As has been mentioned, there are several ways you can decide on which environmental aspects are applicable to you, such as brainstorming each of your organizational processes with members of that process. Choose the one method that will work best for your organization and get started. Remember, you have to consider the lifecycle of your products and services when assessing environmental aspects, so that needs to be part of your methodology.
3. **Define the criteria for evaluation of the environmental aspects** – Again, there are several ways to determine which aspects are significant and in need of consideration. You need to define which criteria you will use for this evaluation and list them out for application. Many companies use a method that

assesses the probability of the aspect occurring, the scale of impact of the aspect, and the reach of the impact when they are assessing significance. By giving these criteria numerical values, you can compare different scores to see which aspects are more significant than others.

4. **Identify the environmental aspects** – Now, go through your processes and identify the environmental aspects using the methodology you chose in step 2. As required by the standard, consider the whole lifecycle of your product or service when considering what environmental aspects exist. For instance, consider the aspects associated with disposal of your products, as well as the aspects associated with acquiring the raw materials to create your product.
5. **Evaluate the significance of the environmental aspects** – Using the criteria you defined in step 3, evaluate each of your environmental aspects to determine how significant the aspects are. Remember, the reason to identify which environmental aspects are significant is to determine which environmental aspects you need to address in your controls.
6. **Plan the actions** – Now is the time to identify which procedures need to be created to control the significant aspects, as well as any other controls needed to ensure that your environmental performance is acceptable and maintained. Do you need to eliminate the aspect by changing your process, or can you monitor the aspect so that you can react before environmental impacts happen?

For an overview of the six-step process, see this free [Diagram of six steps in ISO 14001 environmental aspects management](#).

In the following sections, you'll find more detailed explanations for the some of the steps mentioned, with special focus on setting criteria for the evaluation, identification, and evaluation of environmental aspects and dealing with significant environmental aspects.

How to set criteria for the evaluation

The significance is a relative concept; it cannot be defined in absolute values. What is significant for one organization doesn't have to be for another. Evaluation of the significance includes application of technical analysis and judgment by the organization. When determining criteria for the significance, the organization needs to consider:

- Criteria for environmental protection – such as scale, severity, and duration of the impact; or type, size, and frequency of environmental aspects
- Legal and other requirements – e.g., limitations for emissions, licenses for emissions, regulations, etc.
- Needs and expectations of interested parties – such as the ones related to the values of the organization, reputation, noise, smell, or visual degradation

Criteria for the significance can be related either to the environmental aspects or the environmental impacts. When applying the criteria, the organization needs to set levels or values of the significance related to each criterion, e.g., based on possibility of occurrence (probability/frequency) and its severity (consequence/intensity).

For more details on setting criteria, see this article: [ISO 14001:2015 - How to set criteria for environmental aspects evaluation](#).

How to identify and classify environmental aspects

It is important to look at all factors of the environment when reviewing your processes to determine the aspects. There are six different categories to think about in terms of environmental aspects:

- Emissions to air
- Pollution of land
- Discharge of water
- Use of materials / natural resources
- Solid waste management
- Hazardous waste
- Other local environmental / community issues

By reviewing your processes against each of these categories, it becomes much easier to visualize how each process can affect the environment, and this is what the environmental aspects are. You will also need to determine if you have control over the aspect, or only influence.

You then need to decide, using the selected criteria, which of your environmental aspects are significant and thereby require special attention. The ISO 14001 standard is very open about what is meant by “significant” when it comes to determining the significance of environmental aspects. The only requirement is that the company must determine what aspects have, or can have, a significant impact on the environment. The first place to look for a definition of what is significant would be within any legal environmental requirements that are placed on your company’s processes, and a second place to look for significance criteria would be any industry best practices with respect to the environment. Failing any outside indications of what could be significant, it is up to the company to determine a definition and then use it to classify the aspects that the company has identified.

For more details, see this article: [Environmental aspect identification and classification](#).

For some help understanding different aspects, see this article: [Catalogue of environmental aspects](#).

How to evaluate environmental aspects

You can’t manage everything, nor do you need to. In a system where everything is critical and everything is a priority, nothing takes precedence. This is why you need to decide which environmental aspects are significant, to highlight which are important and need to be managed. In this way, you can assign the right resources to the right problems to get the best return on your environmental investment. When only two aspects really matter, does it make sense to invest in managing all 100 environmental interactions in a company?

Depending on type, nature, and complexity of the organization, some broad aspects you should consider when evaluating environmental aspects include:

- Requirements of relevant environmental legislation
- Potential to cause environmental harm
- Size and frequency of the activity
- Importance to the stakeholders of the organization

As an example, you can assign a number value from 1 to 5 against the probability of the aspect occurring, the scale of impact of the aspect, and the reach of the impact. By adding these numbers together, you can assess among all of the aspects you have identified which are more important than the others, because they will have a higher number. This methodology will give repeatable and consistent results to determine which of the organization's environmental aspects are significant, though it is not overly complex.

For more details on evaluating aspects, see this article: [What makes an environmental aspects significant in ISO 14001?](#)

How to deal with significant environmental aspects in your EMS

It is important that, when you identify an environmental aspect that is especially significant to your organization, you have an agreed method of dealing with that aspect that mitigates, improves, or even removes the impact it may have on the environment, if at all possible. In general, the hierarchy of dealing with environmental aspects, from highest level of control to lowest, is: elimination, substitution, administrative controls (such as procedures). It therefore stands to reason that the organization should identify aspects that present a higher level of risk to the organization in the short term, as opposed to those aspects that may present risk either to a lesser extent or further in the future. Using such a scoring system can help the organization prioritize environmental aspects and decide which are more significant than others.

Given that failure to mitigate or remove a significant aspect may mean that objectives are not attained and continual improvement is not evident, it is clear to see that incorrect management of significant environmental aspects is a risk to the performance of the EMS. Some methods of tackling this scenario include ensuring your significant aspects are discussed and monitored or having your people most knowledgeable about the process help to find a solution to solving your most significant environmental aspects. You could also create a project team, including employees from many affected departments, to find solutions to a significant environmental aspect, and make sure you set a review date to check a significant aspect. Finally, communicate effectively so that everyone knows the significant aspects.

For more on dealing with aspects, see this article: [6 ways to deal with significant environmental aspects in your EMS.](#)

Procedures for managing environmental aspects

The reason why you want to identify significant environmental aspects is to determine what controls are needed to help manage the negative impacts on the environment caused by your processes. You could eliminate the aspect by changing a chemical used in your process or put in place procedures and processes that direct people on how to do activities. While these controls may not be exclusively managed through procedures, it is common to have procedures that do characterize what is needed to adequately govern your environmental performance. If you could cause an environmental process nonconformity by not having a procedure, because people could do the process incorrectly, then you should have a procedure.

These procedures will be as individual as the environmental aspects you have identified. For instance, there are many different industries that have vented fume hoods, which produce emissions to the air as an environmental impact. However, different chemicals used in the fume hood will cause different environmental impacts and, therefore, will require different procedural controls. You may need to determine frequencies for filter cleaning and replacement, as well as how to dispose of these dirty filters. The procedure needs to be tailored to not only the aspect, but also the competence and training of your workers.

For a helpful list of items included in environmental procedures, see this article: [List of procedures for managing environmental aspects](#).

Application of environmental aspects in different industries

Hopefully, you realize by now that the environmental aspects, the impacts that are presented by these aspects, how significant they are, and how detailed procedures need to be, will vary from industry to industry. As the ISO 14001:2015 standard is intended to be used by any company, in any industry, anywhere in the world, the application of environmental aspects will be drastically different in each of these EMS implementations. Chemical companies will have many environmental aspects that impact the environment, while a school may have very few aspects, which have lesser impacts.

This is why you will need to not only include the knowledge of the experts in your company, but you will also need to incorporate the information for legal requirements in your physical location as well as industry best practices in environmental protection to help you best apply the ISO 14001 requirements for your specific organization's EMS.

Below, find some articles on using environmental aspects in many different industries:

- [How to identify environmental aspects in your office using ISO 14001](#)
- [Environmental aspects in the manufacturing sector](#)
- [How the transportation business can benefit from identifying environmental aspects according to ISO 14001](#)
- [Case study – Using ISO 14001:2015 to reduce environmental impact and increase profit in a restaurant](#)
- [Using ISO 14001:2015 to identify environmental aspects in the construction industry](#)
- [Using ISO 14001:2015 to identify environmental aspects for call centers](#)
- [Identifying and controlling environmental aspects in a virtual team](#)
- [Identifying environmental aspects in the engineering business according to ISO 14001](#)
- [Using ISO 14001 to identify environmental aspects in the hotel sector](#)
- [ISO 14001 Case study for hospitals: How to identify environmental aspects](#)
- [How to identify environmental aspects for IT companies](#)

Conclusion

The identification and evaluation of the environmental aspects is the foundation on which the Environmental Management System is built. If it is not done properly, the rest of the EMS will not be effective. By focusing on making the environmental aspect process work for your organization, you will find that you have a better understanding of how your organization interacts with the environment. This way, you can better manage the negative impacts you have on the environment.

Don't skip the evaluation and assessment of environmental aspects – without this kind of analysis, you cannot establish the EMS controls that will help you to manage your environmental performance and improve your environmental processes.

Sample of documentation templates

The following toolkits and standalone documents can help you with the processes for implementing the ISO 14001 standard, including processes for environmental aspect evaluation:

- [ISO 14001:2015 Documentation Toolkit](#)
- [Procedure for identification and evaluation of environmental aspects and risks](#)
- [Procedure for operational control of significant environmental aspects](#)

References

- [14001 Academy](#)
- [ISO 14001 Environmental Management](#)

About the author



Mark Hammar is a Certified Manager of Quality / Organizational Excellence through the American Society for Quality, and has been a Quality Professional since 1994. Mark has experience in auditing, improving processes, and writing procedures for Quality, Environmental, and Occupational Health & Safety Management Systems, and is certified as a Lead Auditor for ISO 9001, AS9100, and ISO 14001.



Advisera Expert Solutions Ltd
for electronic business and business consulting
Zavizanska 12, 10000 Zagreb
Croatia, European Union

Email: support@advisera.com
U.S. (international): +1 (646) 759 9933
United Kingdom (international): +44 1502 449001
Toll-Free (U.S. and Canada): 1-888-553-2256
Toll-Free (United Kingdom): 0800 808 5485
Australia: +61 3 4000 0020

EXPLORE **ADVISERA**

