PECB BEYOND RECOGNITION

Exam Preparation Guide

ISO 14001 Lead Implementer

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The objective of the "PECB Certified ISO 14001 Lead Implementer" exam is to ensure that the candidate has the necessary competence to support an organization in establishing, implementing, managing and maintaining an environmental management system (EMS).

The ISO 14001 Lead Implementer exam is intended for:

- Managers or consultants involved in and concerned with the implementation of the environmental management system in an organization
- Project managers, consultants, or expert advisers seeking to master the implementation of an environmental management system
- Individuals responsible for maintaining conformity with the EMS requirements in an organization
- Members of an EMS implementation team

The exam covers the following competency domains:

- **Domain 1:** Fundamental principles and concepts of an environmental management system (EMS)
- **Domain 2:** Environmental management system (EMS)
- **Domain 3:** Planning the EMS implementation
- **Domain 4:** Implementing an EMS
- **Domain 5:** Performance evaluation, monitoring and measurement of an EMS
- **Domain 6:** Continual improvement of an EMS
- **Domain 7:** Preparing for an EMS certification audit

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The content of the exam is divided as follows:

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Domain 1: Fundamental principles and concepts of an environmental management system (EMS)

Main objective: Ensure that the candidate understands and is able to interpret ISO 14001 principles and concepts

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Competencies

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Knowledge statements

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1. Ability to understand and explain the operations of the ISO organization and the development of environmental management standards
2. Ability to identify, analyze and evaluate the environmental management compliance requirements for an organization
3. Ability to explain and illustrate the main concepts in environmental management
4. Ability to identify and briefly describe other environmental related standards
5. Ability to identify and interpret environmental aspects, vulnerability, threats, impacts and risk

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1. Knowledge of the application of the seven ISO management principles in environmental management
2. Knowledge of the main standards in environmental management
3. Knowledge of the different sources of environmental management requirements for an organization: laws, regulations, international and industry standards, contracts, market practices, and internal policies
4. Knowledge of the main environmental management concepts and terminology as described in ISO 1400
5. Knowledge of the concept of risk and its application in environmental management
6. Knowledge of the difference between preventive, detective and corrective controls and their characteristics
7. Knowledge of other environmental related standards.
8. Knowledge of environmental aspects, vulnerability, threats, impacts, risks and related controls

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Domain 2: Environmental management system (EMS)

Main objective: Ensure that the candidate understands, is able to interpret, and provide guidance on how to implement and manage an environmental management system requirements based on the best practices of ISO 14001

Competencies	Knowledge statements
1. Ability to identify, understand, classify and explain the requirements of the clauses of ISO 14001 2. Ability to detail and illustrate the requirements and best practices through concrete examples 3. Ability to compare possible solutions to an environmental management issue of an organization and identify/analyze the strengths and weaknesses of each proposed solution 4. Ability to select and demonstrate the best environmental management solutions in order to address the environmental management objectives set by the organization 5. Ability to analyze, evaluate and validate action plans to implement a specific requirement	1. Knowledge of operational planning and control. 2. Knowledge of the requirements of clauses 4 to 10 of ISO 14001 3. Knowledge of the best practices in environmental management 4. Knowledge of environmental management strategies 5. Knowledge of establishing, implementing and maintaining environmental management procedures 6. Knowledge of implementing and managing action plans to support an EMS implementation in an organization

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Domain 3: Planning the EMS implementation

Main objective: Ensure that the candidate is able to plan the implementation of the EMS based on ISO 14001

Competencies	Knowledge statements
1. Ability to manage an EMS implementation project by following the best practices of project management 2. Ability to collect, analyze and interpret the necessary information to plan an EMS implementation 3. Ability to observe, analyze and interpret the internal and external environment of an organization 4. Ability to perform a gap analysis and clarify the environmental management objectives of an organization 5. Ability to legitimize an EMS project to the stakeholders of the organization and obtain the formal approval by the management 6. Ability to state and justify an EMS scope adapted to the organization's specific environmental objectives 7. Ability to develop an EMS policy and procedures 8. Ability to understand and explain environmental aspects, objectives and compliance obligations 9. Ability to perform the different steps of the risk assessment and risk treatment phases	1. Knowledge of the main project management concepts, terminology, process and best practices 2. Knowledge of the principal approaches and methodology frameworks to implement an EMS 3. Knowledge of the main concepts and terminology related to organizations 4. Knowledge of an organization's internal and external environment 5. Knowledge of the main interested parties related to an organization and their characteristics 6. Knowledge of the techniques to gather information on an organization and perform a gap analysis of the management system 7. Knowledge of creating and presenting a business case, EMS project team, determining the needed resources and obtaining formal approval from the management 8. Knowledge of the characteristics of an EMS scope in terms of organizational, technological and physical boundaries 9. Knowledge of the techniques and best practices to draft environmental management policies and procedures 10. Knowledge of identifying and determining significant environmental aspects, objectives and compliance obligations 11. Knowledge of the different approaches and main methodology characteristics to perform a risk assessment 12. Knowledge of the main activities of the risk identification, estimation, evaluation related to the environment included in the EMS of an organization

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Domain 4: Implementing an EMS

Main objective: Ensure that the candidate is able to implement the processes of an EMS required for an ISO 14001 certification

Competencies	Knowledge statements
1. Ability to understand and analyze the needs, and provide guidance on the attribution of roles and responsibilities in the context of an EMS implementation and management	1. Knowledge of the roles and responsibilities of the key interested parties during and after the implementation and operation of an EMS
2. Ability to define the documentation and record management processes needed to support the implementation and operations of an EMS	2. Knowledge of the main organizational structures applicable for an organization to manage an environmental management System
3. Ability to define and design processes and properly document them	3. Knowledge of the best practices on documentation and record management processes and the documentation management life cycle
4. Ability to recognize the processes and procedures for managing incidents, preventing future environmental impacts and reducing their chance of occurrence	4. Knowledge of the characteristics and the differences between the different documents related to an EMS: policy, procedure, guideline, standard, baseline and worksheets, etc.
5. Ability to define and implement appropriate environmental management training, awareness and communication plans	5. Knowledge of implementing controls, process techniques and best practices
6. Ability to establish an EMS communication plan to assist in the understanding of an organization's environmental issues, policies, and performance, and providing inputs/suggestions for improving the EMS performance	6. Knowledge of the main characteristics of an EMS incident management process based on best practices and the implementation of ways to detect and respond to incidents
	7. Knowledge of the characteristics and the best practices to implement environmental management training, awareness and communication plans
	8. Knowledge of the communication objectives, activities and interested parties to enhance the shareholder support and confidence

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Domain 5: Monitoring, measurement, analysis and evaluation of an EMS

Main objective: Ensure that the candidate is able to evaluate, monitor and measure the performance of an EMS

Competencies	Knowledge statements
1. Ability to monitor and evaluate the effectiveness of an EMS 2. Ability to verify to what extent the identified EMS requirements have been met 3. Ability to define and implemented an internal audit program for ISO 14001 4. Ability to perform regular and methodical reviews regarding the suitability, adequacy, effectiveness and efficiency of an EMS based on the policies and objectives of the organization 5. Ability to define and implement a management review process and counsel management on it	1. Knowledge of the techniques and best practices to monitor the effectiveness of an EMS 2. Knowledge of the main concepts and components related to an environmental management measurement program: measures, attributes, indicators and dashboards 3. Knowledge of the main concepts and components related to the implementation and operation of an EMS internal audit program 4. Knowledge of the differences between the concepts of major and minor nonconformities, anomalies and observations 5. Knowledge of the guidelines and best practices to write a nonconformity report 6. Knowledge of the best practices on how to perform management reviews

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Domain 6: Continual improvement of an EMS

Main objective: Ensure that the candidate is able to provide guidance on the continual improvement of an EMS

Competencies	Knowledge statements
1. Ability to track and take action on nonconformities 2. Ability to identify and analyze the root-causes of nonconformities and propose action plans to treat them 3. Ability to counsel an organization on how to continually improve the effectiveness and the efficiency of an EMS 4. Ability to implement EMS continual improvement processes in an organization 5. Ability to determine the appropriate business improvement tools to support the continual improvement processes of an organization	1. Knowledge of the main processes, tools and techniques used by professionals to identify the root-causes of nonconformities 2. Knowledge of defining a process to resolve problems and nonconformities 3. Knowledge of the characteristics and the difference between corrective and preventive actions 4. Knowledge of the main processes, tools and techniques used by professionals to develop and propose the best corrective and preventive action plans 5. Knowledge of the maintenance and improvement of an EMS 6. Knowledge of the continuous monitoring process of change factors 7. Knowledge of the maintenance and improvement of an EMS 8. Knowledge of the continual update of documentation and records

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Domain 7: Preparing for an EMS certification audit

Main objective: Ensure that the candidate is able to prepare an organization for the certification against ISO 14001

Competencies	Knowledge statements
1. Ability to understand the main steps, processes and activities related to an ISO 14001 certification audit	1. Knowledge of the evidence based approach in an audit
2. Ability to understand, explain and illustrate the audit evidence approach in the context of an ISO 14001 audit	2. Knowledge of the differences between Stage 1 and Stage 2 audits
3. Ability to counsel an organization to identify and select a certification body that meets their needs	3. Knowledge of Stage 1 audit requirements, steps and activities
4. Ability to review the readiness of an organization for an ISO 14001 certification audit	4. Knowledge of the documentation review criteria.
5. Ability to coach and prepare an organization's personnel for an ISO 14001 certification audit	5. Knowledge of Stage 2 audit requirements, steps and activities
6. Ability to argue and challenge the audit findings and conclusions with external auditors	6. Knowledge of follow-up audit requirements, steps and activities
	7. Knowledge of surveillance audits and recertification audit requirements, steps and activities
	8. Knowledge of the requirements, guidelines and best practices to develop action plans following an ISO 14001 certification audit

Based on the above mentioned domains and their relevance, 12 questions are included in the exam, as summarized in the following table:

| | | Level of understanding (Cognitive/Taxonomy) Required | | | | | |
	Points per question	Questions that measure comprehension, application and analysis	Questions that measure synthesis and evaluation	Number of questions per competency domain	% of test devoted to each competency domain	Number of points per competency domain	% of points per competency domain
Fundamental principles and concepts of the environmental management system (EMS)	5	X		1	8.33	5	6.67
Environmental management system (EMS)	10	X		1	8.33	10	13.34
Planning the EMS implementation	5	X		2	16.67	10	13.34
	10	X					
Implementing an EMS based on ISO 14001	5	X		3	25.00	15	20.00
	5		X				
	5		X				
Performance evaluation, monitoring and measurement of an EMS	5		X	3	25.00	20	26.68
	10		X				
	5		X				
Continual improvement of an EMS based on ISO 14001	5		X	1	8.33	5	6.67
Preparing for an EMS certification audit	5		X	1	8.33	10	6.67
Total points	75						
Number of questions per level of understanding		5	7				
% of the exam devoted to each level of understanding (cognitive/taxonomy)		41.67	58.33				

The exam passing score is **70%**.

After successfully passing the exam, candidates will be able to apply for "PECB Certified ISO 14001 Lead Implementer" credential depending on their level of experience.

General Information on the Exam

Candidates are required to arrive/be present at least 30 minutes before the exam starts. Candidates who arrive late will not be given additional time to compensate for the late arrival and may not be allowed to sit for the exam.

Candidates are required to bring a valid identity card (a national ID card, driver's license, or passport) and show it to the invigilator.

If requested on the day of the exam (paper-based exams), additional time can be provided to candidates taking the exam in a non-native language, as follows:

- 10 additional minutes for Foundation exams
- 20 additional minutes for Manager exams
- 30 additional minutes for Lead exams

PECB Exam Format and Type

1. Paper-based: Exams are provided on paper, where candidates are not allowed to use anything but the exam paper and a pen. The use of electronic devices, such as laptops, tablets, or phones, is not allowed. The exam session is supervised by a PECB approved Invigilator at the location where the Reseller has organized the training course.

2. Online: Exams are provided electronically via the PECB Exams application. The use of electronic devices, such as tablets and cell phones, is not allowed. The exam session is supervised remotely by a PECB Invigilator via the PECB Exams application and an external/integrated camera.

For more detailed information about the online format, please refer to the PECB Online Exam Guide.

PECB exams are available in two types:
1. Essay-type question exam
2. Multiple-choice question exam

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This exam comprises essay-type questions. They are used to determine and evaluate whether a candidate can clearly answer questions related to the defined competency domains. Additionally, problem-solving techniques and arguments that are supported with reasoning and evidence will also be evaluated.

The exam is open book and is not intended to measure memorizing or recalling information. It aims to evaluate candidates' comprehension, analytical skills, and applied knowledge. Therefore, candidates are required to provide logical and convincing answers and explanations in order to demonstrate that they have understood the content and the main concepts of the competency domains.

Since the exam is "open book," candidates are authorized to use the following reference materials:

- A hard copy of ISO 14001 standard
- Training course materials(accessed through PECB Exams app and/or printed)
- Any personal notes made by the candidate during the training course(accessed through PECB Exams app and/or printed)
- A hard copy dictionary

Any attempts to copy, collude, or otherwise cheat during the exam session will automatically lead to failure of the exam.

PECB exams are available in English and other languages. For the availability of the exam in a particular language, please contact examination@pecb.com.

Note: PECB will progressively transition to multiple-choice exams. They will also be open book and comprise scenario-based questions that will allow PECB to evaluate candidates' knowledge, abilities, and skills to use information in new situations (apply), draw connections among ideas (analyze), and justify a stand or decision (evaluate). All PECB multiple-choice exams have one question and three alternatives, of which only one is correct.

For specific information about exam types, languages available, and other details, visit the List of PECB Exams.

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Receiving the Exam Results

Exam results will be communicated via email. The only possible results are *pass* and *fail;* no specific grade will be included.

- The time span for the communication starts from the exam date and lasts three to eight weeks for essay type exams and two to four weeks for multiple-choice paper-based exams

- For online multiple-choice exams, candidates receive their results instantly

Candidates who successfully complete the exam will be able to apply for one of the credentials of the respective certification scheme.

For candidates who fail the exam, a list of the domains where they have performed poorly will be added to the email to help them prepare better for a retake.

Candidates that disagree with the results may request for a re-evaluation by writing to results@pecb.com within 30 working days of receiving the results. Re-evaluation requests received after 30 days will not be processed. If candidates do not agree with the results of the reevaluation, they have 30 working days from the date when they received the reevaluated exam results to file a complaint through the PECB Ticketing System. Complaints received after 30 days will not be processed.

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Exam Retake Policy

There is no limit on the number of times that a candidate may retake an exam. However, there are certain limitations in terms of the allowed time frames between exam retakes.

- If a candidate does not pass the exam on the 1st attempt, they must wait 15 days from the initial date of the exam for the next attempt (1st retake). Retake fees apply.
  Note: Candidates who have completed the training course but failed the exam are eligible to retake the exam once for free within a 12-month period from the initial date of the exam.
- If a candidate does not pass the exam on the 2nd attempt, they must wait three months after the initial date of the exam for the next attempt (2nd retake). Retake fees apply.
  Note: For candidates that fail the exam in the 2nd retake, PECB recommends them to attend a training course in order to be better prepared for the exam.
- If a candidate does not pass the exam on the 3rd attempt, they must wait six months after the initial date of the exam for the next attempt (3rd retake). Retake fees apply.
- After the 4th attempt, the waiting period for further retake exams is 12 months from the date of the last attempt. Retake fees apply.

To arrange exam retakes (date, time, place, costs), candidates need to contact the PECB Reseller/Distributor who has initially organized the session.

Reschedule the Exam

For any changes with regard to the exam date, time, location, or other details, please contact examination@pecb.com.

Closing a Case

If a candidate does not apply for the certificate within three years, their case will be closed. Candidates whose case has been closed due to the expiration of the certification period have the right to request to reopen their case. However, PECB will no longer be responsible for any changes in the conditions, standards, policies, candidate handbook, or exam preparation guide that were applicable before the case was closed. A candidate requesting their case to reopen must do so in writing and pay the required fee.

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Exam Security

A significant component of a successful and respected professional certification credential is maintaining the security and confidentiality of the exam. PECB relies upon the ethical behavior of certificate holders and applicants to maintain the security and confidentiality of PECB exams. Any disclosure of information about the content of PECB exams indicates violation of PECB's Code of Ethics. PECB will take action against individuals who violate PECB Policies and the Code of Ethics. These actions include permanently barring individuals from pursuing PECB credentials and revoking the awarded credentials. PECB will also pursue legal action against individuals or organizations who infringe upon its copyrights, proprietary rights, and intellectual property.

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Sample Exam Questions

Question 1: Identification and management of environmental aspects

Please determine the environmental aspects associated with the following activity, indicate its impact and select at least three mitigation measures to treat the environmental aspect.

Possible answer:

Activity	Aspect (s)	Impact (s)	Mitigation measures
Example: *Maintenance with the use of chemicals*	*Potential for the uncontrolled release of chemicals*	*Air pollution* *Pollution of soil* *Injury to humans*	*Establish environmental objectives to eliminate chemical use* *Staff in charge of the materials trained on the appropriate handling of chemicals* *Establish environmental objectives to switch to eco-friendly chemicals*

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Question 2: Development of metrics

For each of the following clauses of ISO 14001, please provide at least two examples of metrics that would be acceptable to measure conformity to the clause.

Clause 7.4.3 External communication

Possible answer:

- *Total list of planned communication activates to be conducted with external stakeholders*

- *Number of articles published to communicate relevant environmental performance*

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