



ISO 50001 Certified Professional

CERTIFICATION SCHEME **1.0**

Version No: 1

Effective Date: 5/26/2023



Scope

The ISO 50001 Certified Professional (50001 CP) is an individual that can implement 50001 in a competent, practical, and professional manner within an organization where they have the technical knowledge to apply it.

50001 CP's demonstrate competency in the following areas that are included in the 50001 CP Body of Knowledge to gain certification: personal, general understanding, management systems, analysis, technical Analysis and technical.



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Eligibility Requirements for Competence

Individuals applying for the 50001 CP certification examination must attend an approved preparatory training course, meet the following education, and experience requirements, and complete a certification application.

Education and Experience Requirements

Education		Work Experience
4-year engineering/architectural degree OR Professional Engineer (PE), Chartered Engineer (C.Eng) OR Registered Architect (RA)**	and	3+ Years related* experience
4-year degree in technology, environmental science, physics, or earth science**	and	4+ years related* experience
4-year degree in business (or related field)**	and	5+ years related* experience
2-year energy management associate degree**	and	6+ years related* experience
2-year associate degree**	and	8+ years related* experience
NONE	and	10+ years related* experience

* Related experience requires experience in both energy engineering/ energy projects and energy management systems. Individuals undertaking the certification examination will be expected to have a strong understanding in all aspects of energy management that would be typically encountered in a reasonably large commercial building. Persons holding CEM or CEA certification or similar could be reasonably expected to have the level of technical knowledge required. Candidates will also be expected to have a reasonably strong understanding of the structure of ISO management standards and their application in organizations. This is NOT intended as an introduction certification to ISO 50001 or as an introduction to energy management.

**OR equivalent degree / qualification

Examination Requirements for Competence

To earn the 50001 CP Certification, candidates must pass the certification examination. The competency requirements assessed are the following:

ISO 50001 Certified Professional - Examination Blueprint

Body of Knowledge / Percentage of exam	
General Understanding Competencies (17%-25%)	
201	Understand energy management systems terminology and energy management systems principles.
Management Systems Competencies (18%-28%)	
301	Understand the context of an organization and the needs and expectations of interested parties, when determining the scope and boundaries of an organization's EnMS.
302	Understand the requirements of Top Management within an EnMS and the relevance to the EnMS roles, responsibilities and authorities within the organization and the stated energy policy.
303	Identify potential conflicts with organization context and unintended consequences with different proposed energy management system approaches and/or potential energy performance improvement opportunities.
304	Assess a given approach in relation to communication and awareness for a particular situation and assess for conformance, or otherwise, against EnMS requirements.
305	Assess documented information against EnMS standard requirements.
306	Review a given set of circumstances in relation to Legal Obligations & Other obligations and determine conformance or otherwise (comparison of the facts (data) v/s legislation stated). (This does not imply that an individual has an in-depth knowledge of all legal requirements)
307	Assess an internal audit plan for a given set of circumstances and identify shortfalls, or otherwise, in the plan, in relation to the EnMS Standard.
308	Assess a management review set of notes and identify shortfalls, or otherwise, in EnMS standard conformance.
309	Review non-conformities and associated actions taken, and to assess for conformance, or otherwise, to the EnMS standard.
310	Identify relevant legal and other requirements related to energy and to conclude whether these have been appropriately considered in each set of circumstances in an energy management application.

Analysis Competencies (17%-25%)	
401	Use and interpret basic statistics. This shall include the use of control charts and similar approaches to display and analyze data (e.g., Sankey, Pie, Poisson Distribution, Heatmaps etc.).
402	Predict potential improvements, or assess the level of proposed energy improvements, when presented with a set of different stated opportunities and associated savings potential. This would include the context of where the savings will be delivered (i.e., identification and recognition of interactive effects).
403	Assess provided data and other relevant information, along with stated objectives and targets, and to assess the level of energy performance improvement delivered or not delivered.
404	Review provided energy data from monitoring and measurement against stated EnPI's and Baselines and to identify potential anomalies between actual and expected energy data and possible causes.
405	Identify alignment or misalignment with different sets of opportunities for improvement and a given set of objectives, targets, and action plans and EnMS requirements.
406	Assess data collection plans for robustness, related to a particular set of organization circumstances and to assess against EnMS standard requirements.

Technical Analysis Competencies (17%-25%)	
501	Assess an energy review (or part thereof) against the requirements of the EnMS standard.
502	Assess EnPI's and baselines given a set of circumstances and determine if they are appropriate for assessing the existence of energy performance improvement.
503	Analyze energy data and other relevant information; to identify potential variables and static factors; and to determine relevant variables.
504	Identify different appropriate energy performance indicators and baselines, given the objectives and targets of an organizations EnMS and / or assess the relevance or appropriateness of a set of EnPI's and baselines for a set of given circumstances.
505	Use different basic energy analysis approaches to identify potential improvements for a standard set of energy systems. This will include the ability to interpret potential energy improvement opportunities, and/ or estimate energy improvement potential from stated opportunities, when presented with relevant data and applying basic energy and engineering principles.
506	Assess the relevance of selected competence criteria for a given set of circumstances related to energy management.
507	Assess operational criteria related to typical SEUs (as outlined in competency 7) under a given set of circumstances and to identify weaknesses or strengths in the operational control approach undertaken.
508	Review a given set of circumstances related to design and/ or procurement and identify weaknesses and/ or conformance with the EnMS Standard.

Technical Competencies (11%-17%)	
601	<p>Assess proposed opportunities for improvement and form a judgement as to whether they will deliver energy performance improvement under a given set of circumstances. This ability is fundamental to an individual operating as an ISO 50001 CP, whether:</p> <ul style="list-style-type: none"> a) Operating as a consultant in delivering an Energy review to the client in accordance with ISO 50001 requirements. b) Reviewing an SEU in terms of Current Energy Performance and able to correlate energy performance values (e.g., EnPI's) with the existence or otherwise of significance opportunities for energy performance improvement. c) When acting in the position of an auditor. d) Assessing the work of others to assess the appropriate nature of an action plan, its alignment with the projected energy improvement targets and the general reasonable nature of the energy calculations that support the projected improvement target.
602	<p>Review proposed Measurement & Verification approaches against proposed opportunities for improvement, objectives, and targets; and determine if improvement in performance has been demonstrated and /or the level of improvement demonstrated.</p>

Exam Specifications

The examination will be 4-hours, open book / open notes and follow the specifications outlined in the examination blueprint. All questions will be multiple-choice questions in accordance with the percentage of exam range for each task.

Code of Ethics

Codes of Practice are found in the Code of Ethics for Energy Professionals V1.1 dated November 21, 2019, available at www.aeecenter.org/CodeofEthics.

Recertification Requirements

A 50001 CP must accumulate ten professional credits every three years and submit a completed Renewal Form to AEE to remain certified. Professional credits for recertification can be accumulated at any time within the three-year period. Detailed explanation of activities applicable as credits for certification renewal available at www.aeecenter.org/certification/renewal.



Activities for 50001 CP Renewal Credits

Continued employment in energy management activities:

1 credit per year

Membership in a professional engineering society:

1 credit per year

Offices held in a professional engineering society:

1 credit per year

Continuing education (CEU's) / professional activities (seminars or conferences) including but not limited to industrial energy management:

2 credits per CEU, college credit hour or 10 contract hours for training

Awards presented and/or papers published involving energy management:

2 credits each

Certified Professionals who do not acquire sufficient 50001 CP maintenance points to be recertified on the recertification date will be dropped from active certifications and notified in writing of suspension from using the 50001 CP designation. They will also no longer be listed as a 50001 CP in any AEE publication. A lapsed 50001 CP must resubmit to the certification process and successfully meet the criteria for certification by personal data information and examination. Another option for certified professionals is to acquire make-up points at a cumulative total equal to 3.5 per year for every year from date of expiration. This option is available one-time only. Certifications that have lapsed more than three renewal cycles must retake the 50001 CP exam.

A 50001 CP, upon retiring and/or reaching the age of sixty-five, can be designated as "50001 CP – Retired," will no longer be required to pay renewal fees, and will no longer be listed in our directory of actively practicing 50001 CPs. No further reporting is necessary except to notify AEE of meeting the age requirement by sending a copy of the retired 50001 CP's Driver's License.



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