ISO 50001 Energy Management Systems and Auditing Training Course



26 - 30 Oct 2026

Lisbon

4500 € (Per Person)

Ref: #SUS8548_141961

Course Introduction / Overview:

This comprehensive training course provides a deep dive into the principles and practices of energy efficiency auditing and the implementation of Energy Management Systems (EnMS) based on the ISO 50001 standard. In an era where energy costs are rising and environmental regulations are tightening, mastering energy management is no longer optional but a strategic imperative for organizational success and sustainability. This course is designed to equip participants with the skills to identify energy-saving opportunities, establish robust management systems, and drive continual improvement in energy performance. Drawing on principles outlined by experts like Albert Thumann in works such as the "Guide to Energy Management", the curriculum focuses on practical application. Participants will learn to move beyond simple compliance to create a culture of energy efficiency that delivers tangible financial and environmental benefits. BIG BEN Training Center has developed this program to provide a clear roadmap for implementing, maintaining, and auditing an EnMS, ensuring that your organization can achieve and sustain its energy objectives effectively and efficiently. This training is your gateway to becoming a key player in your organization's journey towards operational excellence and responsible energy stewardship.

Target Audience / This training course is suitable for:

- Energy Managers and Coordinators.
- Facility and Plant Managers.
- Sustainability and Environmental Officers.
- Internal and External Auditors.
- Operations and Production Managers.
- Engineering and Maintenance Professionals.
- Management Representatives for ISO standards.
- Consultants specializing in energy and environmental management.
- Quality Assurance and Compliance Managers.
- Procurement and Supply Chain Professionals involved in energy purchasing.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Commercial Real Estate and Property Management.
- Healthcare and Hospital Facilities.
- Hospitality, including Hotels and Resorts.
- Transportation and Logistics.
- Data Centers and Information Technology.
- Food and Beverage Processing.
- Governmental bodies and Public Sector institutions.
- Educational Institutions, including Universities and Schools.
- Utilities and Energy Providers.

Target Organizations Departments:

- Operations and Production.
- Facilities Management and Maintenance.
- Engineering Services.
- Sustainability and Corporate Social Responsibility (CSR).
- Health, Safety, and Environment (HSE).
- Procurement and Purchasing.
- Quality Assurance and Compliance.
- Strategic Planning and Management.
- Internal Audit Departments.
- Finance and Accounting.

Course Offerings:

By the end of this course, the participants will have able to:

- Develop and implement an ISO 50001 compliant Energy Management System (EnMS).
- Conduct comprehensive energy audits to identify significant energy uses and saving opportunities.
- Establish meaningful Energy Performance Indicators (EnPIs) and Energy Baselines (EnBs).
- Create and implement an effective energy policy aligned with organizational objectives.
- Understand the legal and other requirements related to energy efficiency and consumption.
- Master the techniques for monitoring, measuring, and analyzing energy performance.
- Plan and execute internal audits of the EnMS to ensure conformity and effectiveness.
- Prepare for and facilitate management reviews of the energy management system.
- Drive continual improvement processes for enhanced energy performance.
- Integrate the EnMS with other management systems like ISO 9001 and ISO 14001.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring that participants not only learn the theory but can also apply it effectively in their workplace. Our approach moves beyond traditional lectures to foster a dynamic learning environment. The course heavily incorporates real-world case studies from various industries, allowing participants to analyze challenges and successful strategies in energy management. Group discussions and collaborative workshops are central to the learning process, encouraging participants to share experiences and solve problems collectively. Practical exercises, such as developing a sample energy policy or establishing Energy Performance Indicators (EnPIs) for a hypothetical company, will be conducted throughout the five days. Our expert instructors facilitate sessions that are rich with practical examples, interactive Q&A, and hands-on activities. Participants will receive constructive feedback on their work, helping them to build confidence and competence. This blended learning approach ensures a comprehensive understanding of ISO 50001 and equips attendees with the tangible skills needed to lead energy management initiatives.

Course Agenda (Course Units):

Unit One Introduction to Energy Management and ISO 50001

- Fundamentals of energy and thermodynamics.
- Global energy trends, challenges, and opportunities.
- Introduction to Energy Management Systems (EnMS).
- History and evolution of the ISO 50001 standard.
- Benefits of implementing an ISO 50001 EnMS.
- Key terms and definitions in ISO 50001.
- Overview of the Plan-Do-Check-Act (PDCA) cycle in energy management.

Unit Two Planning the Energy Management System (Plan)

- Understanding the organization's context and stakeholder needs.
- The role of top management and leadership commitment.
- Developing a comprehensive energy policy.
- Energy planning process and conducting an energy review.
- Establishing an Energy Baseline (EnB).
- Setting Energy Performance Indicators (EnPIs).
- Defining energy objectives, targets, and action plans.

Unit Three Implementation and Operation of the EnMS (Do)

- Allocating resources, roles, and responsibilities.
- Ensuring competence, training, and awareness.
- Communication strategies for the EnMS.
- Documentation requirements for ISO 50001.
- Establishing operational controls for significant energy uses.
- Considering energy performance in design and procurement.
- Project management for energy efficiency initiatives.

Unit Four Performance Evaluation and Energy Auditing (Check)

- Techniques for monitoring, measurement, and analysis.
- Evaluating compliance with legal and other requirements.
- Introduction to energy auditing principles and types.
- Planning and conducting an internal EnMS audit.
- Reporting audit findings and nonconformities.
- The process and importance of the management review.
- Analyzing energy data for performance insights.

Unit Five Improvement and Integration (Act)

- Addressing nonconformities with corrective and preventive actions.
- The principles of continual improvement for the EnMS.
- Strategies for sustaining and enhancing energy performance.
- Integrating ISO 50001 with other management systems (e.g., ISO 14001, ISO 9001).
- Preparing for third-party certification audits.
- Future trends in energy management and technology.
- Final workshop and course review session.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As digitalization and AI become more integrated into industrial processes, how might the role of the human energy auditor evolve to leverage these technologies for predictive and prescriptive energy management?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing intensely on the practical implementation and auditing of an ISO 50001 system, rather than merely covering theoretical concepts. While many programs explain what the standard requires, our curriculum is built around the "how". We utilize a case-study-driven approach, dissecting real-world successes and failures to provide participants with actionable insights and proven strategies. The training emphasizes the development of critical skills such as conducting a thorough energy review, establishing meaningful Energy Performance Indicators (EnPIs) that drive decisions, and performing effective internal audits that add genuine value. Our instructors are seasoned practitioners who bring a wealth of field experience, offering practical guidance that goes beyond the textbook. Furthermore, the course is designed to foster a deep understanding of how to build a business case for energy efficiency projects, enabling participants to secure management buy-in and resources. The focus is not just on achieving certification, but on embedding a sustainable culture of continual energy performance improvement that delivers lasting financial and environmental returns for the organization.