

Course No. 1576

Energy Management Systems & ISO 50001 Training Course

**ENERGY MANAGEMENT & SUSTAINABILITY
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS**

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Energy Management Systems & ISO 50001 Training Course provides an advanced and practical framework for designing, implementing, maintaining, and continually improving structured energy management systems within industrial, commercial, government, and organizational environments. The course focuses on establishing systematic methods for managing energy performance, reducing energy consumption and costs, strengthening operational control, and embedding energy efficiency into organizational planning and decision making.

Effective energy management requires more than implementing individual energy-saving projects. It requires a structured management system that connects energy policy, planning, energy reviews, significant energy uses, performance indicators, baselines, objectives, operational controls, monitoring, internal review, corrective action, and continual improvement. The course explains how these components work together to create a disciplined and sustainable approach to energy performance management.

The program provides detailed coverage of ISO 50001-based energy management practices, including organizational context, energy policy, leadership responsibilities, energy planning, energy reviews, energy performance indicators, energy baselines, energy data collection, operational controls, procurement considerations, competency and awareness, documentation, monitoring, measurement, analysis, auditing, management review, and corrective action. Participants will learn how to translate management-system requirements into practical processes that support measurable energy improvements.

A strong emphasis is placed on integrating the energy management system with existing business, quality, environmental, maintenance, asset management, and operational systems. Participants will examine how energy performance can be improved through process optimization, equipment efficiency, maintenance strategies, operational discipline, energy monitoring, performance evaluation, and structured improvement programs. The course also addresses implementation challenges, organizational responsibilities, change management, and the importance of reliable energy data.

Through case studies, energy review exercises, baseline development, performance indicator design, management-system workshops, audit simulations, corrective-action exercises, and implementation planning, the Energy Management Systems & ISO 50001 Training Course develops

practical capabilities for building effective energy management systems. The program is suitable for government entities, ministries, public-sector organizations, oil and gas companies, manufacturing facilities, utilities, commercial organizations, and professionals responsible for energy performance, sustainability, operations, engineering, maintenance, and organizational improvement.

Objectives

- Analyze the principles and structure of energy management systems and their role in improving organizational energy performance during the course.
- Evaluate the key elements of ISO 50001 and translate management-system requirements into practical organizational processes.
- Develop an energy policy and governance framework that defines responsibilities, accountability, and strategic direction.
- Conduct structured energy reviews to identify energy sources, significant energy uses, relevant variables, and improvement opportunities.
- Design appropriate energy performance indicators and energy baselines for processes, equipment, and facilities.
- Apply energy planning methods to establish objectives, targets, action plans, and performance priorities.
- Develop operational controls and monitoring processes that support sustained energy performance improvement.
- Evaluate energy data, measurement systems, trends, and deviations to identify performance deterioration and corrective opportunities.
- Design internal audit and management review processes that assess the effectiveness of the energy management system.
- Develop corrective and preventive actions for identified energy performance and management-system gaps.
- Strengthen integration between energy management, maintenance, operations, asset management, procurement, sustainability, and finance.
- Align energy management system implementation with continual improvement, cost reduction, sustainability, operational resilience, and organizational objectives.

Who Should Attend

This course is designed for professionals responsible for energy management, operational performance, sustainability, engineering, maintenance, facilities, quality, and management systems. It is particularly relevant to Energy Managers, Energy Engineers, Sustainability Managers, Management System Specialists, Environmental and Energy Professionals, Process Engineers, Mechanical Engineers, Electrical Engineers, Facilities Managers, Maintenance Managers, Operations Managers, and professionals responsible for implementing or improving energy management systems.

The program is also suitable for Engineering Directors, Operations Directors, Plant Managers, Asset Managers, Sustainability Directors, Quality Managers, Management Systems Managers, and senior executives responsible for energy performance, compliance, operational efficiency, and organizational sustainability. Professionals working in government entities, ministries, oil and gas organizations, petrochemical companies, manufacturing facilities, power and utilities organizations, infrastructure assets, and large corporations can benefit from the frameworks covered in the course.

The course is particularly valuable for professionals involved in ISO management systems, energy audits, internal auditing, energy performance monitoring, process improvement, maintenance planning, procurement, capital projects, sustainability reporting, and organizational governance. It also provides practical value for finance and project professionals involved in evaluating energy improvement investments and monitoring the financial impact of energy initiatives.

Learning Outcomes

- Explain the purpose, structure, and key principles of an energy management system based on ISO 50001.
- Interpret ISO 50001 requirements and translate them into practical organizational processes and responsibilities.
- Develop an energy policy and governance structure that supports energy performance objectives.
- Conduct an energy review and identify energy sources, significant energy uses, relevant variables, and performance improvement opportunities.
- Develop energy performance indicators and energy baselines appropriate to different facilities, processes, and operating conditions.

- Establish energy objectives, targets, action plans, and performance monitoring mechanisms.
- Design operational controls and processes that support consistent and efficient energy performance.
- Analyze energy data and performance trends to identify deviations, deterioration, and improvement opportunities.
- Develop internal audit plans and evaluate the effectiveness of energy management system implementation.
- Prepare corrective action and continual improvement plans based on audit findings, performance gaps, and management review results.
- Prepare management reports that communicate energy performance, risks, opportunities, and improvement priorities.
- Develop a practical roadmap for implementing and continually improving an ISO 50001-aligned energy management system.

Course Outline

DAY 01

Energy Management Systems Foundations and ISO 50001 Framework

- Principles and strategic value of energy management systems
- Overview and structure of ISO 50001
- Organizational context and energy management system scope
- Leadership commitment, roles, responsibilities, and accountability
- Developing an energy policy
- Energy management governance and organizational responsibilities
- Understanding energy performance as a management objective
- Integration of energy management with existing organizational systems

PRACTICAL APPLICATION

Define the scope, leadership structure, energy policy, and organizational responsibilities for an ISO 50001-aligned energy management system

DAY 02

Energy Planning, Energy Review and Performance Indicators

- Principles of energy planning and energy review
- Identification of energy sources and energy consumption patterns
- Significant energy uses and identification of energy performance drivers
- Relevant variables and influencing factors
- Energy data collection, measurement, and data quality
- Energy baselines and baseline development
- Energy performance indicators and performance targets
- Energy objectives, targets, action plans, and prioritization

PRACTICAL APPLICATION

Conduct an energy review and develop energy baselines and performance indicators for a representative industrial or commercial facility

DAY 03

Operational Control, Monitoring and Energy Performance Improvement

- Operational planning and control within the energy management system
- Integrating energy efficiency into operating procedures
- Energy performance requirements for equipment and processes
- Maintenance and asset management as drivers of energy performance
- Energy-efficient procurement and investment considerations
- Monitoring, measurement, analysis, and evaluation
- Trend analysis and identification of deviations
- Performance improvement opportunities and action planning

PRACTICAL APPLICATION

Develop operational controls, monitoring procedures, and improvement actions for significant energy uses

DAY 04**Internal Auditing, Nonconformities and Management Review**

- Principles of internal auditing for energy management systems
- Audit planning, preparation, evidence collection, and reporting
- Evaluating compliance and energy performance effectiveness
- Identification and classification of findings and nonconformities
- Root-cause analysis and corrective action
- Verification of corrective actions and effectiveness
- Management review and executive oversight
- Performance reporting, risks, opportunities, and improvement priorities

PRACTICAL APPLICATION

Conduct a simulated internal energy management system audit, identify findings, and develop corrective action plans

DAY 05**Implementation, Continual Improvement and Strategic Energy Management**

- Building an implementation roadmap for an ISO 50001-aligned energy management system
- Integrating energy management with operations, maintenance, quality, environment, and asset management
- Developing energy performance dashboards and management reports
- Measuring and verifying energy improvement results
- Managing organizational change, awareness, and employee engagement
- Continual improvement of energy performance and management-system effectiveness
- Preparing for external assessment and ongoing system maintenance
- Governance, management review, and strategic decision making
- Linking energy management with sustainability, cost reduction, resilience, and long-term organizational performance

DAY 05 — CONTINUED

FINAL WORKSHOP

Develop and present a comprehensive Energy Management System implementation and improvement roadmap covering scope, energy policy, energy review, significant energy uses, baselines, performance indicators, objectives, operational controls, monitoring, internal auditing, corrective actions, management review, and continual improvement

Register or Request More Information

Course page: <https://quest-training.com/courses/energy-management-systems-iso-50001-training-course>

Website: <https://quest-training.com>

Email: info@quest-training.com

Phone: +905016771440