

ICTQual AB



Qualification Specification

ICTQual AB Level 3 Certified Energy Manager



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ICTQual AB's

Level 3 Certified Energy Manager

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About ICTQual AB's

ICTQual AB is a distinguished awarding body based in the United Kingdom, dedicated to fostering excellence in education, training, and skills development. Committed to global standards, ICTQual AB's provides internationally recognized qualifications that empower individuals and organizations to thrive in an increasingly competitive world. Their offerings span diverse industries, including technical fields, health and safety, management, and more, ensuring relevance and adaptability to modern workforce needs.

ICTQual AB's delivers high-quality educational solutions through a network of Approved Training Centres worldwide. Their robust standards and innovative teaching methodologies equip learners with practical knowledge and skills for personal and professional growth. With a mission to inspire lifelong learning and drive positive change, ICTQual AB's continuously evolves its programs to stay ahead of industry trends and technological advancements.

Course Overview

The **ICTQual Level 3 Certified Energy Manager** is a professional qualification engineered to bridge the gap between basic energy awareness and high-level auditing. It provides a comprehensive framework for understanding energy management principles and the practical application of efficiency strategies. This program focuses on the technical and administrative skills required to oversee energy consumption, procurement, and carbon reduction initiatives within various organizational settings.

In an era of rising utility costs and stringent environmental regulations, the role of an Energy Manager has become vital. This course empowers professionals to move beyond theory and into the active management of resources. By exploring critical topics such as energy data analysis, utility bill verification, and the monitoring of HVAC systems, participants gain the expertise needed to translate complex technical data into compelling business cases for energy investment.

Course Objectives

The primary objectives of the EM0003 qualification are to enable participants to:

- **Analyze Energy Data:** Develop proficiency in establishing energy baselines and using Key Performance Indicators (KPIs) to track sustainability goals.
- **Optimize Systems:** Understand the technical fundamentals of heating, ventilation, air conditioning (HVAC), and energy-efficient technologies.
- **Manage Procurement:** Master utility bill verification and procurement strategies to ensure cost-effective energy sourcing.
- **Implement Strategy:** Design and execute actionable energy management plans that align with both legislative requirements and organizational goals.
- **Integrate Renewables:** Evaluate and integrate renewable energy sources into existing infrastructures.

Aims

This qualification aims to produce practitioners who are not only technically proficient but also strategically minded. The program seeks to:

1. **Reduce Operational Impact:** Minimize both the financial costs and the carbon footprint of an organization through technical excellence.
2. **Foster a Culture of Efficiency:** Equip managers with the leadership skills to promote energy-conscious behavior across all levels of an organization.
3. **Navigate Compliance:** Ensure that organizations remain compliant with evolving energy legislation and environmental standards.
4. **Professional Development:** Provide a standardized pathway for individuals to gain recognized professional status in the field of energy management.

Targeted Audience

The Level 3 Certified Energy Manager qualification is ideal for:

- **Facility Managers & Building Operators** looking to enhance their technical oversight of energy systems.
- **Sustainability Officers** tasked with meeting carbon reduction targets and ESG (Environmental, Social, and Governance) goals.
- **Maintenance Engineers** transitioning into management roles focused on resource efficiency.
- **Procurement Professionals** responsible for managing utility contracts and energy sourcing.
- **Aspiring Energy Consultants** seeking a formal credential to validate their expertise in efficiency strategies.

Certification Framework

Qualification title	ICTQual AB Level 3 Certified Energy Manager
Course ID	EM0003
Total Qualification Time	100 Hours
Guided Learning Hours	50 Hours
Grading Type	Pass / Fail
Competency Evaluation	Coursework / Assignments / Verifiable Experience
Assessment	<p>The assessment and verification process for ICTQual AB's qualifications involves two key stages:</p> <p>Internal Assessment and Verification:</p> <ul style="list-style-type: none">✓ Conducted by the staff at the Approved Training Centre (ATC) to ensure learners meet the required standards through continuous assessments.✓ Internal Quality Assurance (IQA) is carried out by the centre's IQA staff to validate the assessment process. <p>External Quality Assurance:</p> <ul style="list-style-type: none">✓ Managed by ICTQual AB's verifiers, who periodically review the centre's assessment and IQA processes. <p>Verifies that assessments are conducted to the required standards and ensures consistency across centres</p>

Entry Requirements

To enrol in ICTQual AB Level 3 Certified Energy Manager, learner must meet the following entry requirements:

- ✓ **Age Requirement:** Learners must be at least 16 years old at the time of registration.
- ✓ **Educational Background:** A Level 2 Award in Energy Management or an equivalent qualification is recommended. Learners with relevant academic or professional experience in energy, engineering, facilities management, or sustainability may also be considered.
- ✓ **Professional Experience:** Previous experience in energy management, facilities management, sustainability, or a related field is highly desirable. Practical exposure to energy systems, audits, or workplace energy practices will support learning and application.
- ✓ **English Proficiency:** As the course is delivered in English, learners should demonstrate proficient reading, writing, and communication skills.

Qualification Structure

This qualification comprises 6 mandatory units, totalling 10 Credits. Candidates must successfully complete all mandatory units to achieve the qualification.

Mandatory Units	
Unit Ref#	Unit Title
EM0003-01	Introduction to energy management
EM0003-02	Technical and Operational
EM0003-03	Energy Assessments, Measurements and Verification
EM0003-04	Regulatory & Legal Compliance and Carbon Management
EM0003-05	Strategy/Plan in energy management
EM0003-06	ISO 50001 energy management system

Centre Requirements

To ensure quality training delivery, centres must adhere to the following standards:

1. Centre Approval

- ✓ Centres must be formally approved by ICTQual AB's before delivering this qualification.
- ✓ Approval involves a review of facilities, policies, and staff qualifications.

2. Qualified Staff

- ✓ **Tutors:** Must hold a Bachelor's Degree (Level 6) or higher in Energy Management, Electrical or Mechanical Engineering, or a related sustainability discipline, and possess a minimum of 3 years of professional experience in industrial energy auditing, utility management, or carbon reduction strategy implementation.
- ✓ **Assessors:** Must hold a recognized assessor qualification (e.g., CAVA, AVRA) or equivalent)
- ✓ **Internal Quality Assurers (IQAs):** Must hold a recognized IQA qualification (e.g. Level 4 Award in the IQA and Level 4 Certificate in Leading the IQA) and experience to oversee assessment standards.

3. Learning Facilities

Centre must offer:

- ✓ Private study areas and internet-enabled workspaces (for blended or physical delivery)
- ✓ Academic and pastoral support for learners
- ✓ Administrative support must be available to manage enrolment, tracking, and learner queries efficiently

4. Health and Safety Compliance

- ✓ All training facilities must comply with health and safety regulations.

- ✓ Centres must conduct regular risk assessments for practical activities.

5. Learning Resources

- ✓ **Course Materials:** Approved textbooks, study guides, and digital content must align with the qualification standards.
- ✓ **Assessment Tools:** Templates and guidelines must be provided to ensure standardized evaluation processes.
- ✓ **E-Learning Support:** Centres offering online or blended learning must implement an effective Learning Management System (LMS).

6. Assessment and Quality Assurance

- ✓ Centres must ensure assessments meet ICTQual AB's competency standards.
- ✓ Internal quality assurance (IQA) must be conducted to maintain consistency.
- ✓ External verifiers from ICTQual AB's will review assessment and training practices.

7. Learning Support

- ✓ **Qualification Guidance:** Support for coursework and assignments.
- ✓ **Career Pathway Assistance:** Information on progression opportunities in Energy Management, Electrical or Mechanical Engineering sectors.
- ✓ **Accessibility Support:** Accommodations for learners with disabilities or language barriers.

8. Policies and Compliance

Centres must uphold the following policies in accordance with ICTQual AB's standards:

- ✓ Equality, Diversity, and Inclusion Policy.
- ✓ Health and Safety Policy.
- ✓ Safeguarding and Learner Protection Policy.
- ✓ Complaints and Appeals Procedure.
- ✓ Data Protection and Confidentiality Policy.

9. Reporting Requirements

- Centres must provide ICTQual AB's with regular reports on learner registrations, progress, and certification outcomes.
- Assessment records must be maintained for external auditing and quality assurance purposes.

Support for Candidates

Centres should ensure that materials developed to support candidates:

- ✓ Facilitate tracking of achievements as candidate's progress through the learning outcomes and assessment criteria.
- ✓ Include information on how and where ICTQual AB's policies and procedures can be accessed.
- ✓ Provide mechanisms for Internal and External Quality Assurance staff to verify and authenticate evidence effectively.

This approach ensures transparency, supports candidates' learning journeys, and upholds quality assurance standards.

Assessment

This qualification is competence-based, requiring candidates to demonstrate high-level strategic proficiency as defined in the qualification units. The assessment evaluates the candidate's skills, knowledge, and understanding against the set standards. Key details include:

Assessment Process:

- Must be conducted by an experienced and qualified assessor.
- Candidates compile a portfolio of evidence that satisfies all learning outcomes and assessment criteria for each unit.

Types of Evidence:

- Assignments, detailed research projects, or strategic reports.
- Professional discussions.
- Candidate-produced strategic work (e.g., policy drafts, financial models).
- Recognition of Prior Learning (RPL).

Learning Outcomes and Assessment Criteria:

- **Learning Outcomes:** Define what candidates should know, understand, or accomplish upon completing the unit.
- **Assessment Criteria:** Detail the standards candidates must meet to demonstrate that the learning outcomes have been achieved.

Unit Descriptors

EM0003-01- Introduction to Energy Management

This unit establishes the foundational principles of energy management, focusing on the global energy landscape and the business case for efficiency. Learners explore fundamental concepts such as energy hierarchies, supply chains, and the role of the Energy Manager. The curriculum emphasizes the transition from basic awareness to strategic resource oversight, ensuring a solid grounding in professional energy management practices.

Learning Outcome:

Assessment Criteria:

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Understand the fundamental concepts, principles, and objectives of energy management across multiple sectors.</p> | <p>1.1 Explain in detail the key concepts of energy management, including energy use, energy efficiency, and energy conservation, and show how these concepts are relevant in different working environments.</p> <p>1.2 Describe the main principles of energy management, such as reducing waste, improving efficiency, and continuous monitoring, and explain how these principles are applied across sectors like manufacturing, commercial buildings, and services.</p> <p>1.3 Identify and explain the main objectives of energy management within organisations, including cost reduction, improved performance, and environmental protection, using clear workplace-related examples.</p> <p>1.4 Apply knowledge of energy management concepts by analysing a simple workplace scenario and explaining how energy use can be improved through practical actions.</p> |
| <p>2. Identify the importance of energy efficiency, conservation, and sustainable practices in reducing operational costs and environmental impact.</p> | <p>2.1 Clearly define energy efficiency, energy conservation, and sustainability, and explain the differences between these terms using relevant examples.</p> <p>2.2 Explain how improving energy efficiency and reducing energy waste can lower operational costs in an organisation, with reference to common workplace activities.</p> <p>2.3 Describe how energy-saving practices contribute to reducing environmental impact, including lowering carbon emissions and conserving natural resources.</p> <p>2.4 Identify and evaluate practical energy-saving measures that can be implemented in a workplace, explaining how effective each measure is in reducing cost and environmental impact.</p> |

- 3. Explore essential tools, techniques, and strategies used to monitor, control, and optimise energy usage within organisations.**
 - 3.1 Identify and describe a range of tools and equipment used to measure and monitor energy consumption, such as energy meters and monitoring systems, and explain their purpose in managing energy use.
 - 3.2 Explain different techniques used to control energy consumption, including switching off unused equipment, scheduling operations, and improving maintenance practices.
 - 3.3 Describe strategies used by organisations to optimise energy use, such as energy audits, staff awareness programmes, and process improvements.
 - 3.4 Demonstrate the ability to use basic methods to collect, record, and review energy usage data in a given scenario, and suggest simple improvements based on the findings.

- 4. Recognise the responsibilities and roles of energy managers in promoting sustainable energy practices and driving organisational change.**
 - 4.1 Describe in detail the roles and responsibilities of an energy manager, including monitoring energy use, setting targets, and ensuring compliance with policies.
 - 4.2 Explain how an energy manager promotes energy efficiency and sustainability within an organisation through planning, communication, and implementation of initiatives.
 - 4.3 Identify and explain different methods used by energy managers to influence staff behaviour and increase awareness of energy-saving practices.
 - 4.4 Demonstrate how to communicate and present a clear and practical energy-saving recommendation suitable for a workplace setting.

- 5. Develop awareness of global energy trends and their implications for businesses and industries.**
 - 5.1 Identify and describe key global energy trends, such as the growth of renewable energy, increasing energy demand, and the shift towards low-carbon solutions.
 - 5.2 Explain how these global energy trends impact businesses and industries in terms of cost, operations, and regulatory requirements.
 - 5.3 Describe why organisations need to adapt to changing energy trends and how this can affect their long-term sustainability and competitiveness.
 - 5.4 Interpret basic information or data related to global energy trends and propose appropriate actions that an organisation could take in response.

EM0003-02- Technical and Operational Energy Management

Focusing on the core mechanics of energy consumption, this unit covers the technical optimization of building systems, including HVAC, lighting, and industrial motors. Participants learn to identify energy-saving opportunities through operational control and maintenance excellence. The module bridges technical theory with practical application, ensuring systems operate at peak efficiency while maintaining organizational productivity and occupant comfort.

Learning Outcome:

Assessment Criteria:

1. **Gain in-depth knowledge of energy systems, equipment, and technologies commonly used in industrial, commercial, and residential settings.**

- 1.1 Describe in detail the main types of energy systems and equipment used in industrial, commercial, and residential environments, including their purpose and basic operation.
- 1.2 Explain how different energy technologies, such as heating, cooling, lighting, and electrical systems, are used in various sectors and how they affect overall energy consumption.
- 1.3 Compare different types of energy systems used across sectors, identifying their advantages, limitations, and typical energy performance.
- 1.4 Apply knowledge of energy systems by examining a given scenario and explaining how selected equipment contributes to energy use within that setting.

2. **Learn how to assess and optimise energy performance through technical upgrades, system improvements, and operational adjustments.**

- 2.1 Explain the methods used to assess energy performance, including reviewing energy data, system checks, and basic energy audits.
- 2.2 Describe different technical upgrades and system improvements that can be used to improve energy performance, such as efficient equipment or improved controls.
- 2.3 Explain how operational adjustments, such as scheduling and process changes, can improve energy efficiency without major investment.
- 2.4 Evaluate a simple workplace example and recommend suitable technical and operational improvements to optimise energy performance.

3. Analyse energy consumption patterns to identify areas for efficiency improvements and cost savings.

- 3.1 Describe how energy consumption data is collected and presented, including the use of basic charts, readings, or reports.
- 3.2 Explain how to identify patterns and trends in energy use, such as peak usage times and areas of high consumption.
- 3.3 Analyse a set of energy data or a given scenario to identify areas where energy is being wasted or used inefficiently.
- 3.4 Suggest practical actions to improve energy efficiency and reduce costs based on the analysis of energy consumption patterns.

4. Develop practical skills in implementing energy-saving measures and monitoring energy usage to ensure ongoing performance improvement

- 4.1 Describe a range of practical energy-saving measures that can be implemented in different workplace settings.
- 4.2 Demonstrate how to plan and carry out simple energy-saving actions in a given scenario, considering safety and effectiveness.
- 4.3 Explain how energy usage can be monitored over time using basic tools and methods to track performance improvements.
- 4.4 Review the effectiveness of implemented energy-saving measures and suggest further improvements based on results.

5. Understand how operational decisions, maintenance routines, and behavioural practices can directly impact energy efficiency

- 5.1 Explain how day-to-day operational decisions, such as equipment use and scheduling, can affect energy consumption.
- 5.2 Describe the role of regular maintenance in improving energy efficiency and preventing energy waste.
- 5.3 Identify how staff behaviour and workplace practices influence energy use, including both positive and negative impacts.
- 5.4 Assess a workplace situation and recommend improvements in operations, maintenance, and behaviour to enhance energy efficiency.

EM0003-03- Energy Assessments, Measurements, and Verification

This unit provides the analytical tools required to quantify energy performance accurately. It covers utility bill verification, the establishment of energy baselines, and the use of Key Performance Indicators (KPIs). Learners master the techniques for monitoring and targeting (M&T), ensuring that energy savings are measured, verified, and reported using rigorous, data-driven methodologies to validate investment outcomes.

Learning Outcome:

Assessment Criteria:

- 1. Acquire practical skills in conducting energy audits, assessments, and site inspections to identify energy-saving opportunities.**

- 1.1 Explain the purpose and key stages of energy audits, assessments, and site inspections, including preparation, data collection, and reporting.
- 1.2 Describe the methods and procedures used when carrying out a basic energy audit or site inspection, including identifying equipment, processes, and areas of energy use.
- 1.3 Demonstrate how to carry out a simple energy assessment in a given or simulated workplace scenario, identifying areas where energy is being used inefficiently.
- 1.4 Evaluate the findings from an energy audit or inspection and clearly identify practical opportunities for improving energy efficiency.

- 2. Learn accurate methods for measurement, data collection, and verification of energy performance improvements.**

- 2.1 Describe different methods and tools used for measuring energy consumption, including meters, sensors, and manual recording techniques.
- 2.2 Explain how to collect accurate and reliable energy data, including the importance of consistency, timing, and correct recording methods.
- 2.3 Demonstrate how to collect and record energy data in a structured way from a given scenario or practical activity.
- 2.4 Explain how collected data can be used to verify energy performance improvements after changes or upgrades have been implemented.

- 3. Develop the ability to analyse and interpret energy data, identifying trends, inefficiencies, and areas for intervention.**
 - 3.1 Describe how energy data can be presented and organised, such as through tables, charts, and simple reports.
 - 3.2 Explain how to identify trends and patterns in energy data, including peak usage, unusual increases, or irregular consumption.
 - 3.3 Analyse a set of energy data or a given case and identify areas of inefficiency or unexpected energy use.
 - 3.4 Interpret the results of energy data analysis and recommend appropriate actions to improve energy performance.

- 4. Gain experience in compiling detailed energy reports and presenting findings to stakeholders for informed decision-making.**
 - 4.1 Describe the structure and key components of an energy report, including introduction, findings, analysis, and recommendations.
 - 4.2 Demonstrate the ability to prepare a clear and organised energy report based on collected data and assessment findings.
 - 4.3 Explain how to present energy information and recommendations in a way that is easy for stakeholders to understand.
 - 4.4 Present findings from an energy assessment, using appropriate communication methods, and respond to simple questions or feedback.

- 5. Understand how continuous monitoring and verification support long-term energy management strategies.**
 - 5.1 Explain the purpose and importance of continuous energy monitoring in maintaining and improving energy performance over time.
 - 5.2 Describe how verification processes are used to confirm that energy-saving measures are working as expected.
 - 5.3 Explain how regular monitoring and review can help organisations make informed decisions and maintain long-term energy efficiency.
 - 5.4 Assess a given scenario and recommend how continuous monitoring and verification processes can be applied to support ongoing energy management.

EM0003-04- Regulatory and Legal Compliance and Carbon Management

Participants examine the evolving landscape of energy legislation and international climate agreements. This unit focuses on carbon footprinting, greenhouse gas reporting, and compliance with national energy audits. By understanding the intersection of policy and practice, learners are equipped to manage corporate environmental risks and lead carbon reduction initiatives that align with global sustainability standards and legal mandates.

Learning Outcome:

Assessment Criteria:

1. Understand the legislative and regulatory frameworks governing energy management and environmental compliance.

- 1.1 Explain the purpose of legislative and regulatory frameworks related to energy management and environmental protection, including why organisations must follow them.
- 1.2 Describe the key features of common energy and environmental regulations, including rules on energy use, emissions, and reporting.
- 1.3 Identify relevant regulatory requirements that apply to different types of organisations and sectors, using appropriate examples.
- 1.4 Apply knowledge of regulatory frameworks to a given workplace scenario and explain how compliance can be achieved in practice.

2. Learn about carbon management strategies, emissions reduction techniques, and their role in corporate sustainability.

- 2.1 Explain the concept of carbon management and its importance in reducing environmental impact and supporting sustainability goals.
- 2.2 Describe different carbon reduction strategies, such as improving energy efficiency, using renewable energy, and reducing waste.
- 2.3 Explain how organisations measure and manage carbon emissions, including basic methods for tracking and reporting.
- 2.4 Evaluate a simple scenario and recommend suitable carbon reduction actions that support organisational sustainability objectives.

3. Gain knowledge of relevant environmental laws, reporting standards, and compliance requirements across different regions.

- 3.1 Identify key environmental laws and reporting standards that relate to energy use and carbon emissions.
- 3.2 Describe the purpose and requirements of environmental reporting, including what information organisations need to provide.
- 3.3 Compare basic differences in environmental compliance requirements across regions or sectors.

- 4. Develop practical skills to implement policies and strategies that ensure organisational adherence to energy and carbon regulations.**
 - 5. Appreciate the impact of regulatory compliance on organisational reputation, financial performance, and sustainability goals.**
- 3.4 Interpret a given compliance requirement or report example and explain how an organisation can meet the stated obligations.
 - 4.1 Describe how organisations develop and implement energy and environmental policies to meet regulatory requirements.
 - 4.2 Demonstrate how to apply a simple policy or procedure in a workplace scenario to support compliance with energy or carbon regulations.
 - 4.3 Explain how monitoring, record-keeping, and internal checks help ensure ongoing compliance.
 - 4.4 Assess a workplace situation and recommend practical actions to improve compliance with energy and environmental regulations.
 - 5.1 Explain how compliance with energy and environmental regulations can improve an organisation's reputation and public image.
 - 5.2 Describe how non-compliance can lead to financial risks, such as fines, increased costs, or loss of business opportunities.
 - 5.3 Explain the relationship between regulatory compliance and achieving long-term sustainability goals.
 - 5.4 Evaluate a given scenario and explain how compliance or non-compliance can affect organisational performance and decision-making.

EM0003-05- Strategy and Planning in Energy Management

This module transitions technical knowledge into organizational leadership by teaching the development of comprehensive Energy Action Plans. Learners explore procurement strategies, financial appraisal techniques for energy projects, and change management principles. The focus is on creating a sustainable roadmap that integrates energy efficiency into the broader corporate strategy while fostering a long-term culture of resource conservation.

Learning Outcome:

- 1. Develop comprehensive energy management strategies and plans aligned with organisational objectives and operational needs.**

- 2. Learn to set measurable goals, targets, and KPIs for energy efficiency and sustainability initiatives.**

- 3. Understand the importance of engaging stakeholders, promoting collaboration, and fostering a culture of energy awareness.**

Assessment Criteria:

- 1.1 Explain the purpose of an energy management strategy and how it supports organisational objectives and operational requirements.
- 1.2 Describe the key components of an effective energy management plan, including objectives, actions, timelines, and responsibilities.
- 1.3 Analyse organisational needs in a given scenario and explain how an energy strategy can be aligned with business goals and operations.
- 1.4 Develop a simple energy management plan for a given workplace scenario, clearly linking proposed actions to organisational objectives.

- 2.1 Explain the importance of setting clear and measurable goals and targets in energy management.
- 2.2 Describe different types of energy-related targets and key performance indicators (KPIs), including how they are used to measure progress.
- 2.3 Demonstrate how to set realistic and measurable energy efficiency targets for a given scenario, considering available data and resources.
- 2.4 Evaluate the suitability of selected KPIs and targets in monitoring energy performance and suggest improvements where necessary.

- 3.1 Explain the role of different stakeholders in energy management, including staff, management, and external parties.
- 3.2 Describe methods used to engage stakeholders and encourage participation in energy-saving initiatives.
- 3.3 Demonstrate how to communicate energy management goals and actions clearly to different stakeholders in a given scenario.

- 4. Acquire skills in resource allocation, budgeting, and project management to successfully implement energy initiatives.**
 - 5. Evaluate the effectiveness of energy strategies and plans, making adjustments based on performance data and organisational feedback.**
- 3.4 Assess how effective stakeholder engagement can influence organisational culture and improve energy performance.
 - 4.1 Explain the importance of resource planning and budgeting when implementing energy management initiatives.
 - 4.2 Describe basic budgeting methods and how costs and savings are considered in energy projects.
 - 4.3 Demonstrate how to plan and allocate resources, including time, staff, and equipment, for a simple energy project.
 - 4.4 Apply basic project management principles in a given scenario to support the successful implementation of an energy initiative.
 - 5.1 Explain how the performance of energy strategies and plans can be measured using data and feedback.
 - 5.2 Describe methods used to review and evaluate energy performance against set targets and objectives.
 - 5.3 Analyse performance data or a given scenario to determine whether energy management goals have been achieved.
 - 5.4 Recommend suitable improvements or adjustments to energy strategies and plans based on evaluation findings and organisational needs.

EM0003-06- ISO 50001 Energy Management System

Dedicated to the international standard for energy management, this unit guides learners through the Plan-Do-Check-Act (PDCA) cycle. It details the requirements for establishing, implementing, and improving an Energy Management System (EnMS). Participants learn how to achieve ISO 50001 certification, ensuring that energy performance improvements are systematic, documented, and integrated into the organization's core management processes.

Learning Outcome:

- 1. Gain a detailed understanding of the ISO 50001 standard, its requirements, and its role in systematic energy management.**

- 2. Learn to design, implement, and maintain an ISO 50001-compliant energy management system tailored to organisational needs.**

- 3. Understand the tangible benefits of ISO 50001 certification, including improved energy performance, cost reductions, and regulatory compliance.**

Assessment Criteria:

- 1.1 Explain the purpose of the ISO 50001 standard and how it supports organisations in managing energy in a structured and systematic way.
- 1.2 Describe the key requirements of ISO 50001, including energy policy, planning, implementation, monitoring, and review.
- 1.3 Explain how ISO 50001 helps organisations improve energy performance and maintain control over energy use.
- 1.4 Apply knowledge of ISO 50001 by explaining how its requirements could be used within a simple organisational scenario.

- 2.1 Describe the main steps involved in designing and implementing an ISO 50001 energy management system within an organisation.
- 2.2 Explain how an energy management system can be adapted to meet the specific needs and size of an organisation.
- 2.3 Demonstrate how to develop key elements of an energy management system, such as an energy policy, objectives, and action plans, for a given scenario.
- 2.4 Explain how an energy management system is maintained over time through regular monitoring, updating, and review processes.

- 3.1 Explain the main benefits of ISO 50001 certification, including improved energy efficiency and better control of energy use.
- 3.2 Describe how certification can help organisations reduce operational costs and improve financial performance.
- 3.3 Explain how ISO 50001 supports organisations in meeting legal and regulatory requirements related to energy and environment.

- 4. Develop practical skills in conducting internal audits, managing documentation, and preparing for external certification audits.**
 - 5. Explore continuous improvement methods to sustain energy efficiency and ensure the long-term success of the energy management system.**
- 3.4 Evaluate a given scenario and explain how ISO 50001 certification could provide value to the organisation.
 - 4.1 Explain the purpose and process of internal audits within an energy management system.
 - 4.2 Describe the types of documents and records required for ISO 50001 compliance and how they should be managed.
 - 4.3 Demonstrate how to carry out basic internal audit activities in a given scenario, including identifying non-conformities.
 - 4.4 Explain how an organisation prepares for an external certification audit, including key steps and responsibilities.
 - 5.1 Explain the concept of continuous improvement and its importance in maintaining an effective energy management system.
 - 5.2 Describe methods used to improve energy performance over time, such as regular reviews, corrective actions, and performance monitoring.
 - 5.3 Analyse performance data or a given scenario to identify areas where improvements can be made.
 - 5.4 Recommend suitable actions to support continuous improvement and ensure long-term success of the energy management system.

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