



ISO 50001 TRANSITION ESSENTIALS – 4 MONTHS TO GO



Richard Walsh MIEMA CEnv

24th September 2021

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NQA specialises in certification in **high technology** and engineering sectors.



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We promise to update you on industry changes



We promise our experience will add value to your audit schedule



We promise to ensure your certification remains flexible to your business



We will ensure all fees are all inclusive



We will ensure our auditors are technically competent for your industry



We will deliver excellent customer service



We will provide added value through our audits and reports



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INSERT CLIENT NAME



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KEY INFO

- 45 minute webinar
 - Questions in the chat box
 - Q&A at the end
 - Recording of webinar circulated shortly
-

YOUR PRESENTER



Richard Walsh

CEnv MIEMA, ISO 9001, ISO 14001,
ISO 50001, NHSS 18, Eco-Campus

NQA Principal Assessor
Environment & Energy



Richard is NQA's Principal Assessor for ISO 14001 and ISO 50001 management system standards. As a Principal Assessor his role is to lead and develop the technical knowledge and skill base of NQA staff and Assessors, whilst ensuring technical knowledge and changes within the industry are cascaded appropriately and accordingly to clients and external stakeholders.



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AGENDA

- Learning Objectives
 - New Concepts - a reminder
 - Clauses
 - Transition process
 - Top Tips
 - Q & A
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WHAT WILL YOU LEARN?

- The key concepts of ISO 50001
 - New terminology and important definitions introduced in ISO 50001:2018
 - Specific new clauses and requirements/evidence
 - ISO 50001 – The transition timelines and notable dates
 - Practical tips on how to prepare for the changes and implications for maintaining certification.
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OVERARCHING CONCEPTS

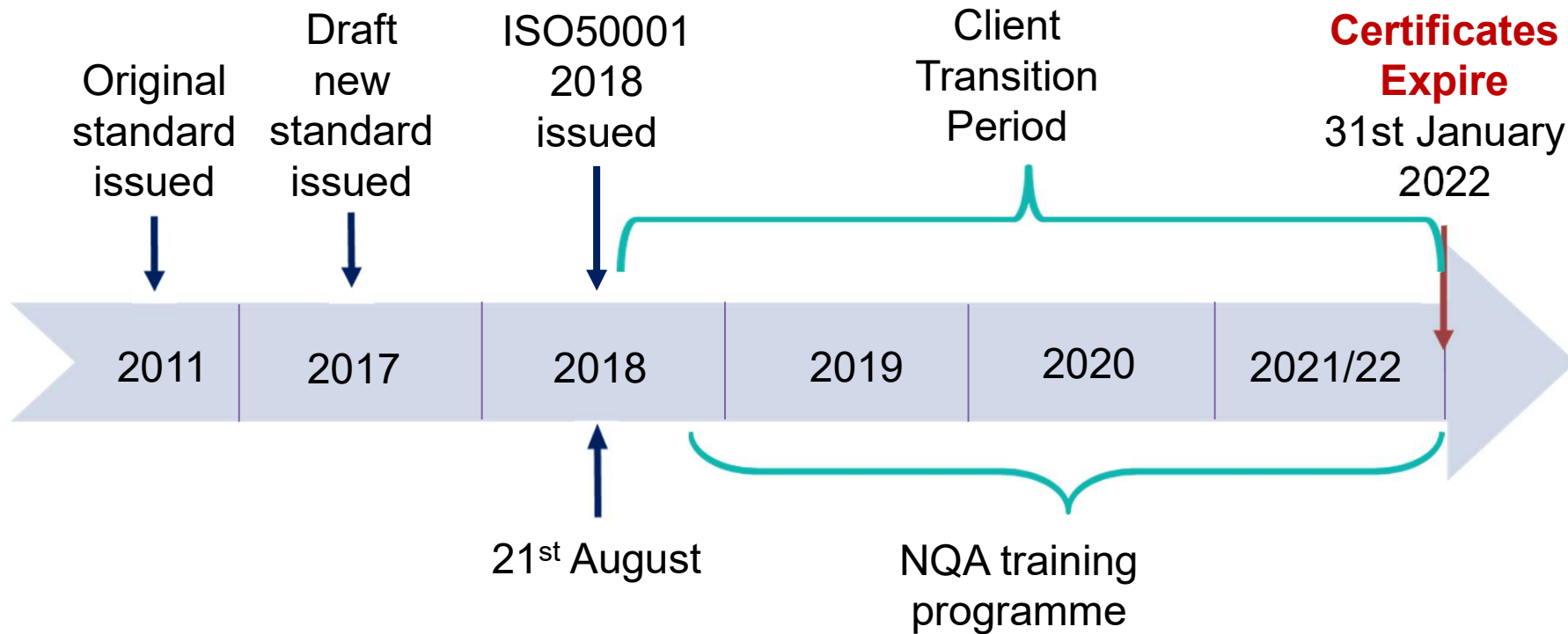
Intended outcomes

- Continual improvement in energy performance
- Fulfilment of compliance obligations;
- Achievement of energy objectives.

Management of change

- Focuses on planning process
 - Management of risk
 - Integration with other standards & business processes
-

ISO 50001 DEVELOPMENT TIMELINE





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WHY THE NEED FOR CHANGE?

- Maintain relevance to industry and organisations
- Provide a consistent foundation for the next 10 years
- Reflect the increasingly complex environments in which organisations operate
- Ensure the standards reflect the needs of all potential user groups not just those in manufacturing
- Focus on corporate governance
- Push from industry for easier integration of management systems

Annex SL - but!



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ANNEX SL

- Clause 1 - Scope
- Clause 2 - Normative references
- Clause 3 - Terms and definitions
- Clause 4 - Context of the organization
- Clause 5 - Leadership
- Clause 6 - Planning
- Clause 7 - Support
- Clause 8 - Operation
- Clause 9 - Performance evaluation
- Clause 10 - Improvement

Auditable Clauses

SYSTEM STRUCTURE

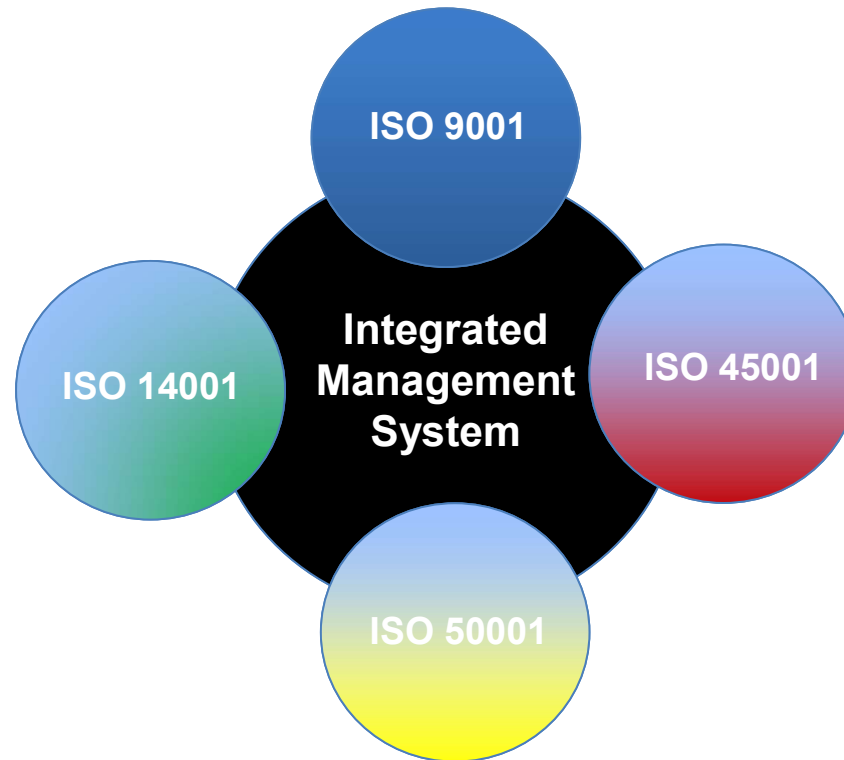
1. Scope
2. Normative References
3. Terms and Definitions





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EASILY INTEGRATED



4.1 – CONTEXT OF THE ORGANISATION

- Determine external and internal issues that are relevant to the organisation's purpose and that affect its ability to achieve the intended outcome of its EnMS.
 - Requirement is to consider the organisation's context and the needs of interested parties (including legislation) and their requirements
 - The above should result in an organisation's EnMS focussing on the issues that present the greatest risk, positive or negative, to achieving energy performance improvement.
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POTENTIAL KEY ISSUES

Energy Related

- Energy supply/availability
- Weather
- Climate Change
- GHG Emissions
- Sector objectives

External

- Legal/Regulatory
- Economic
- Technology
- Social/Cultural
- Competition
- Drivers/Trends
- Interested parties

Internal

- Strategic direction
- Capabilities
- Compliance status
- Culture
- Standards
- Operations & systems
- Contractual relationships

Remember - Intent is to provide a high level conceptual understanding of the Important issues that can positively or negatively affect the way in which energy responsibilities are managed.

4.2 – INTERESTED PARTIES

Concept - Understanding of need or expectation

- Determine relevant requirements of relevant interested parties
- Determine which ones the organisation has to or chooses to comply with.
- As an absolute minimum, **all** relevant legal requirements must be included and reviewed at defined intervals.
- Ensure all requirements are taken into account within EnMS

The organisation can choose which of the these needs and expectations it must meet (with the exception of legislative requirements).



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4.2 – INTERESTED PARTIES

Who are they?

- Employees
 - Board members/shareholders
 - Customers
 - Suppliers/contractors
 - Regulators
 - Community and/or pressure groups
-



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4.3 – SCOPE OF THE ENMS

Clarifies Physical and Organisational Boundaries of EnMS

- Whole or part of the organisation
 - Must include all energy types used
 - Must have authority to control energy efficiency, energy use and energy consumption within the scope.
 - Scope and boundaries must be made available as documented information
-

4.4 – ENERGY MANAGEMENT SYSTEM

Establish, implement, maintain & continually improve the EnMS to achieve intended outcomes.

- Ensures processes are controlled, carried out as planned and achieve the desired results.
 - Define process interaction
 - Integrates EnMS into business processes - Design & development, procurement, HR, sales & marketing
 - Consider knowledge gained from 4.1/4.2 in its creation
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5 – LEADERSHIP & COMMITMENT

EnMS.....

- Is not managed in isolation, or separately from the core strategy of the business;
 - Is considered when strategic business decisions are made;
 - Is aligned with business objectives;
 - Benefits from the appropriate level of resources (see 7.1), provided in a timely and efficient manner;
 - Receives the appropriate involvement from across the business;
 - Promoting continual improvement – energy efficiency & EnMS;
 - Ensuring that the EnPIs appropriately represent energy performance.
-

TOP MANAGEMENT NOW DEFINED AS...

“Person or group of people who directs and controls an organisation at the highest level”

- In an organisation with a company wide EnMS Top Management is essentially board level.
 - If an EnMS has been adopted by a business unit within a organisation then top management would be the senior management of the business unit.
 - New standard requires top management to take accountability for the effectiveness of the EnMS.
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5.2 – ENERGY POLICY

- Appropriate to the organisation's purpose and context
 - Framework for setting/reviewing energy objectives
 - Commits to ensure the availability of information & necessary resources to achieve objectives & energy targets
 - Commits to satisfy applicable legal requirements and other requirements
 - Commitment to continual improvement (EnMS & energy performance)
 - Supports design & procurement for energy efficiency
 - Documented and available to interested parties
 - Communicated internally
-

5.3 – ROLES, RESPONSIBILITIES, AUTHORITIES & (7.1) RESOURCES

- Assigned and communicated within organisation
 - Requirement for energy manager dropped – now **'TEAM'**
 - **Key roles:**
 - Ensuring that the EnMS is established, implemented, maintained & continually improve
 - Ensuring that the EnMS conforms to the requirements of the standard
 - Implementing action plans to continually improve energy performance
 - Reporting on the performance of the EnMS and improvement of energy performance to top management
 - Establishing criteria and methods needed to ensure that the operation and control of the EnMS are effective.
 - Resources to establish, implement, maintain and continually improve EnMS - HR, infrastructure, technology, financial and time!
-

6 - PLANNING

Plan to address the issues (4.1/4.2) within the EnMS that are needed to:

- Achieve intended outcomes
 - Continual improvement in energy performance
 - Determine risks and opportunities
 - Achieve energy objectives
- Prevent or reduce undesired effects
 - External conditions affecting the organisation

ACHIEVE CONTINUAL IMPROVEMENT

6.1.2 – ACTIONS TO ADDRESS RISKS & OPPORTUNITIES

The organisation shall plan:

- Actions to address identified risks and opportunities
- How to:
 - Integrate and implement the actions into its EnMS and energy performance processes
 - Evaluate the effectiveness of these actions.



6.2 - OBJECTIVES, ENERGY TARGETS & PLANNING TO ACHIEVE THEM

This is a policy commitment – improvement of EnMS & energy performance.

Objectives must be:

- Consistent with energy policy
- Measureable (if practicable)
- Consider SEUs
- Monitored
- Communicated/documentated
- Updated

Planned actions:

- Who, what, when
 - Resources required
 - Evaluate results using relevant indicators
 - Integrated into business processes.
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6.3 – ENERGY REVIEW

Develop and conduct an energy review

- Analyse energy use and consumption
 - Identify current types of energy in use
 - Evaluate past & current energy use(s) and consumption
 - Based on the analysis, identify SEUs (Significant Energy Uses)
 - Determine relevant variables;
 - Determine current energy performance;
 - Identify those doing work ‘under its control’ that influence/affect the SEUs
 - Determine and prioritise opportunities for improving energy performance;
 - Estimate future energy use and energy consumption.
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6.3 – ENERGY REVIEW

Develop and conduct an energy review

- The energy review shall be updated at defined intervals, as well as in response to major changes in facilities, equipment, systems or energy-using processes.
 - The organization shall maintain as documented information, the methods and criteria used to develop the energy review, and shall retain documented information of its results.
-

6.4 – ENERGY PERFORMANCE INDICATORS

Determine EnPIs that:

- Are appropriate for measuring and monitoring energy performance
 - Enable a demonstration of energy performance improvement
 - The method for determining and updating the EnPI(s) shall be maintained as documented information
 - EnPI values must be maintained as documented information
 - EnPI values shall be reviewed and compared to the baseline figure
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6.5 – ENERGY BASELINE

Establish a baseline using the information from the energy review taking into account a suitable period of time.

- Normalisation of variables that can affect performance (e.g. - kWh/m²)
 - Suitable period of time?
 - As a guide, allow one full year for data analysis between baseline and current year.
 - Baseline shall be revised if:
 - EnPI(s) no longer reflect the organization's energy performance;
 - There have been major changes to the static factors;
 - According to a pre-determined method.
-

6.6 – PLANNING FOR COLLECTION OF ENERGY DATA

Key characteristics of operations that affect energy performance are identified, measured, monitored and analysed at planned intervals

- Define and implement an energy data collection plan

The plan shall specify:

- Data necessary to monitor the key characteristics
- How and at what frequency the data shall be collected and retained

the relevant variables for SEUs	operational criteria related to SEUs
energy consumption related to SEUs	static factors, if applicable
data specified in action plans	equipment accurate and repeatable



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7.2 - COMPETENCY

Similar to existing 2011 Clause

- Determine necessary competence requirements
 - Ensure persons are competent on basis of education, training or experience.
 - Where necessary take action to allow staff to acquire competency and evaluate actions taken.
 - Training, mentoring, re-assignment of staff or use of additional staff.
 - Competency records to be maintained.
-



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7.3 - AWARENESS

Similar to existing 2011 Clause

- Persons doing work under the organisation's control – includes contractors, are aware of:
 - Energy policy and commitments
 - Impacts of their work with regard to energy performance
 - How they can contribute to the effectiveness of the EnMS and the benefits of improved energy performance
 - Implications (risks) of not conforming to EnMS requirements including compliance obligations.
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7.4 - COMMUNICATION

Communication both internally and externally

- Establish a process on what, when, with whom and how to communicate.
 - Ensure that information communicated is consistent with information generated within the EnMS and is dependable
 - Enable input/feedback on improvements to the EnMS and to energy performance.
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7.5 – DOCUMENTED INFORMATION

Based on 2011 version – Documentation, Control of Documents and Records.

- Create and maintain sufficient documented information in a manner sufficient to demonstrate a suitable, adequate and effective EnMS.
 - Focus on implementation of EnMS not a complex document control system
 - Documentation required by the standard
 - Does not have to be in the form of a manual
 - Controlled, available, protected
-

7.5 – DOCUMENTED INFORMATION - REQUIRED

Documents	Records
Scope and boundaries of the EMS	Objectives and targets
Energy Policy	Action plans to achieve Objectives & Targets
Methods & criteria used to develop the energy review	Results of energy review
Method for determining and updating the EnPIs	EnPI values
Means of establishing accuracy and repeatability of measurement, monitoring equipment	Baseline - relevant variable data and modifications
Improvement suggestions	Energy data to be collected
Documentation necessary to have confidence that the processes have been carried out as planned	Results of the investigation and response to significant deviations in energy performance
Design activities related to energy performance	Competency (education, training, experience)
Evidence of the implementation of the audit programme(s) and the audit results	Results from monitoring and measurement including evaluation of compliance
The nature of the nonconformities and subsequent actions taken & the results of any corrective action	The results of management reviews.
Plus – any documented information deemed necessary including those of external origin	

8.1 – OPERATIONAL PLANNING & CONTROL

Process control to achieve desired results

- Processes to be established to:
 - Control the processes related to SEUs
 - Establishing criteria for the processes where their absence can lead to a significant deviation from intended energy performance
 - Communicating the criteria to relevant people doing work under the control of the organization;
-

8.1 – OPERATIONAL PLANNING & CONTROL (cont.)

Process control to achieve desired results

- Processes to be established to:
 - Operating and maintaining facilities, equipment, systems and energy-using processes in accordance with established criteria
 - Control planned changes and review the consequences of unintended changes,
 - Ensure that outsourced SEUs or processes related to its SEUs) are controlled
-



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8.2 - DESIGN

Consider energy performance improvement opportunities in the design of new, modified and renovated:

- Facilities
- Equipment
- Systems
- Energy using processes

If they can have a significant impact on energy performance over the planned or expected operating lifetime.



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8.3 - PROCUREMENT

Evaluate energy performance over the planned or expected operating lifetime, when procuring energy using products, equipment and services.

- Inform suppliers that energy performance is one of the evaluation criteria to be used
 - Communicate specifications for:
 - Ensuring the energy performance of procured equipment & services
 - The purchase of energy.
-



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9 – PERFORMANCE EVALUATION

Organisations must monitor, measure, analyse and evaluate its energy performance (includes EnMS itself)

- What needs to be monitored (EnPIs, operation of SEUs, progress to O&Ts)
 - What methods are used to ensure valid results
 - Calibrated or verified equipment
 - Criteria to be used along with appropriate indicators
 - When monitoring will be performed
 - When results analysed and evaluated.
 - Communicate results internally & externally as required
 - Retain documented information
-

9.1.2 – EVALUATION OF COMPLIANCE

Concept - Evaluate conformity with legal & other requirements

- Determine frequency
- Evaluate compliance & take actions if needed
 - Retain Variety of methods can be used
 - Audit, documentation review, site tour, routine 'Day to Day' monitoring.
 - Who is suitable?
- Maintain records

Applies equally to all legal & other requirements



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9.2 – INTERNAL AUDIT

Conduct internal audits to verify conformance to ISO 50001 and to its own EnMS requirements

- Establish audit programme and consider
 - Frequency
 - Methods
 - Responsibilities
 - Planning requirements
 - Reporting
 - Consider:
 - Energy performance improvement
 - Policy commitments, objectives and targets
 - Results of previous audits
-



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9.3 – MANAGEMENT REVIEW

INPUTS

- Status of actions from previous reviews
- Changing Circumstances/issues:
- Context of organisation
 - Legal and other requirements
 - Significant energy uses
 - Risks & opportunities
- Extent objectives achieved
- Energy performance information:
- Nonconformities/corrective actions
- Monitoring & measurement results
- Compliance status
- Audit results
- Adequacy of resources
- Improvement opportunities inc. policy

OUTPUTS

- Conclusions on EnMS suitability, adequacy & effectiveness
- Continual improvement decisions
- Changes to EnMS, including resources, if needed
- Actions if objectives not met
- EnPIs and Baseline
- Implications for strategic direction
- Documented results
- Improvement of competence, awareness and communication
- Allocation of resources
- Opportunities to improve energy performance



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10 - IMPROVEMENT

Concept - Determine opportunities for improvement and implement actions to achieve intended outcomes

- Improve the suitability, adequacy and effectiveness of the energy management system
 - Focus - improving energy performance
 - Achievement of intended outcomes
 - Reducing adverse impacts
 - Increasing beneficial impacts.
-



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10.1- NONCONFORMITY & CORRECTIVE ACTION

Graded approach

- Appropriate to magnitude of effects or impacts

Documented information

- Nature of nonconformities
- Actions taken
- Results of actions

Requirements

- React to nonconformity
- Take action to control & correct
- Deal with consequences; mitigate adverse impact
- Evaluate need for action to eliminate cause
- Review nonconformity
- Determine cause
- Determine like-fault
- Implement any corrective action
- Review effectiveness
- Make changes to EnMS



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CONTINUAL IMPROVEMENT

Failure to demonstrate continual improvement in energy performance is a major Non-conformance.

- Energy performance improvement is a unique requirement for an EnMS. Auditors for assessment bodies **must** consider energy performance improvement as a part of the certification decision.
- **Examples of improvement**

The total energy consumption decreases over time

Total energy consumption increases but the measure of energy performance as defined by the organization improved (EnPI measure)



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TRANSITION PROCESS

Same as for both ISO 9001:2015 and ISO 14001:2015

- Changes to the standard are deemed significant
 - We will perform value added assessments
 - All ISO 50001:2011 certificates will expire **31st January 2022**
 - Transition audit required – 3 ways of carrying this out:
 1. Re-Assessment Transition – recommended
 2. Surveillance Transition
 3. (Special/Any-time Visit Transition)
-



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ISO 50001:2018 – A SUMMARY

Now includes:

- Adoption of the Annex SL - High Level Structure text to ensure compatibility with other management system standards
 - Energy Review has been clarified
 - Normalization of EnPI(s) and associated EnB(s)
 - Clarification on the energy data collection plan and related requirements
 - EnPI and EnB text has been clarified to provide a better understanding of these concepts
-



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4 Months to go!

NEW DEADLINE

ISO 50001
migration deadline
extended by 6 months to

**31ST
JANUARY
2022**

The graphic features a background of solar panels in the foreground and wind turbines in the distance under a clear sky. A large green circle with the text 'NEW DEADLINE' is overlaid on the solar panels. To the right, a green vertical panel contains the text 'ISO 50001 migration deadline extended by 6 months to' and a calendar graphic showing '31ST JANUARY 2022'.



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WHAT HAPPENS NEXT?

1. Take a completely fresh look at your EnMS
 2. Visit the NQA website to access the most up-to-date support and transition materials
 3. Highlight the key changes as opportunity for improvements
 4. Make changes to your documentation to reflect new structure (as necessary)
 5. Implement new requirements on leadership, risk and context of organisation
 6. Review effectiveness of current controls
 7. Assume every control may have to be changed
 8. Carry out a gap analysis – Form TR006
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Q&A





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THANK YOU

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