

People Aspects of ISO 50001:2018

Eur Ing John Mulholland BScTech CEng CSci MChemE FEI
Director Mulholland Energy

1. Introduction

ISO 50001:2018 is the global Energy Management System Standard, first launched as ISO 50001:2011 in June 2011. The current version, ISO 50001:2018, was released in August 2018.

The requirements of ISO 50001:2018 provide a comprehensive framework for energy management and can be used by any organisation, in any sector, as a blueprint or framework for best practice. This applies irrespective of whether or not the organisation seeks certification to their Energy Management System (EnMS).

This paper explores the “people” aspects of energy management examining the different roles of people in the organisation and the roles/responsibilities they have in energy management. Identifying key players/contributors is an important step in developing an energy management strategy.

In one sense all the requirements of ISO 50001 have a people element, as someone needs to do something. However, some requirements are more focused on people (Competence, Awareness, Communication).

This paper is part one of two parts. This paper examines the people requirements. The next paper titled “ISO 50001 – A Lever for Employee Engagement”, examines how to use the requirements to level change in the organisational culture.

2. The Structure of ISO 50001:2018

Figure 1 shows the overall structure of ISO 50001. There are ten generic clauses which are common to all ISO Standards. Some elements of ISO 50001:2018 are ‘system’ clauses, common to all ISO Standards, such as internal audit and management review. Other clauses are ‘energy’ clauses, specific to ISO 50001:2018.

The main people clauses in Figure 1 are highlighted in yellow.

4.	Context of the organization • <i>Understanding the organization and its context</i> • <i>Understanding the needs and expectations of interested parties</i> • <i>Determining the scope of the management system</i> • <i>Management system</i>
5.	Leadership • <i>Leadership and commitment</i> • <i>Policy</i> • <i>Organizational roles, responsibilities and authorities (Energy Management Team)</i>
6.	Planning • <i>Actions to address risks and opportunities</i> • <i>Objectives and planning to achieve them</i>
7.	Support • <i>Resources</i> • <i>Competence</i> • <i>Awareness</i> • <i>Communication</i> • <i>Documented information</i>
8.	Operation • <i>Operational planning and control</i> • <i>Design</i> • <i>Procurement</i>
9.	Performance evaluation • <i>Monitoring, measurement, analysis and evaluation</i> • <i>Internal audit</i> • <i>Management Review</i>
10.	Improvement • <i>Nonconformity and corrective action</i> • <i>Continual improvement</i>
Annex A	Guidance for Use

Figure 1 Main Clauses of ISO 50001:2018

3. Behavioural Clauses of ISO 50001:2018

For some organisations the application of ISO 50001 has delivered unexpected savings by employee engagement which is integral to the Standard. In one sense all clauses are behavioural in that someone in the organisation has to apply the clauses. But within the Standard there are clauses specifically geared to behavioural change by different types of people. This is summarised in Figure 2.

Clause No.	Title	People Group
5.1	Leadership and Commitment	Top Management
5.2	Energy Policy	Top Management, Energy Management Team, All Employees
5.3	Organisation roles, responsibilities and authorities	Top Management Energy Management Team
7.2	Competence	Competent people affecting energy performance (Significant Energy Users)
7.3	Awareness	All employees
7.4	Communication to	Target audiences (internally) Target audiences (externally)
7.4	Communication from employees	Employees feeding back
8.1	Operational planning and control	Operation/maintenance within organisation or outsourced impacting energy performance
8.2	Design	Designers impacting energy performance
8.3	Procurement	Procurement staff impacting energy performance
9.3	Management Review	Top Management Energy Management Team

Figure 2 Key People Clauses and People Groups in ISO 50001:2018

So the key groups of people identified are:

- Top Management
- Energy Management Team
- Competent People (Significant Energy Users)
- All Employees
- Operation/Maintenance
- Designers
- Procurers

So the Standard addresses those who can make a significant difference in improving energy performance, depending on their role.

4. Top Management and Energy Management Team

Often energy management fails in organisations because of lack of senior level support with little human and financial resources dedicated to the process. This is specifically addressed in Clause 5.1 on Leadership and Commitment. So if gaining senior management support is an issue, this can help.

The Standard is very specific about the roles and responsibilities of senior management in demonstrating commitment to supporting the EnMS.

For example, the Energy Policy (Clause 5.2) has to be devised by top management, has to meet certain minimum requirements and all employees must be aware of it (Clause 7.3a Awareness)

Clause 5.3 describes the role of the Energy Management Team who have the responsibility of implementing the EnMS and who will be held accountable by senior management. In ISO 50001:2011 a key person was the Management Representative but in ISO 50001:2018 this role has been removed and replaced with the term 'Energy Management Team'. If the team has a leader, then it is the equivalent of the Management Representative. If the team does not have a leader it is likely to be ineffective. So it could be argued the Management Representative role should have been retained.

Three key people/behaviour clauses are Clauses 7.2 (Competence), 7.3 (Awareness) and 7.4 (Communications). These are now described and discussed below.

5. Competence

Clause 7.2 states:

7.2 Competence

The organisation **shall**:

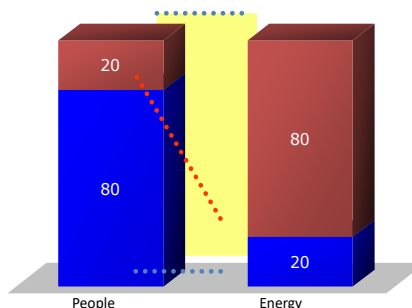
- a) determine the necessary competence of person(s) doing work under its control that affects its energy performance and EnMS;
- b) ensure that these persons are competent on the basis of appropriate education, training, skills or experience;
- c) where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken;
- d) retain appropriate documented information as evidence of competence.

The clause covers competence of those whose work affects energy performance. It is assumed that these are people whose work has an energy dimension within their responsibilities and job description and that any lack of competence and application can negatively and significantly impact energy performance. This could be relatively few people in an organisation and could be less than 1% of the workforce in an organisation of 10,000 employees. It is up to the organisation to identify these people to ensure they are competent, evidenced by one or more of the following: education, training, skills and experience.

In the 2011 version of ISO 50001, this competence clause referred specifically to those role could impact Significant Energy Use (SEU). This differentiated them from those who are to be "aware" in Clause 7.3. as covered in Section 5. It is an unfortunate omission from ISO 50001:2018 version and it appears to be unintentional. Instead they replaced "Significant Energy Use" with "that affects its energy performance and EnMS". This is very vague and it could be argued that anyone could affect its energy performance, irrespective of their job function or by how much. It is safe to say that those drafting the Standard for the 2018 version meant that "competence" refers specifically to SEU and "awareness" refers to all in an organisation irrespective of their influence.

Annexe A *Guidance for Use* provides a commentary on the requirements of the Standard. The Annexe is not auditable but for guidance only. In relation to competence paragraph A.7.2 mentions two groups of people: top management and EnMS team members referred to in Clause 5.1. It is assumed this means the Energy Management Team. But competence requirements can be applied to anyone the organisation considers appropriate.

Typically in a Pareto situation where 20% of the workforce control 80% of the energy, then the 20% would be seen as significant and requiring competence. In contrast the 80% controlling the 20% of energy require awareness.



In some energy intensive organisations 5% of the workforce may control 95% of the energy. In this situation the competence of the 5% is even more critical to good energy performance. Therefore analysing who controls what energy is vital in determining competence requirements and how they can be met, measured and monitored. This is an important element in developing a proper behaviour change strategy.

6. Awareness

Clause 7.3 states:

7.3 Awareness

Persons doing work under the organisation's control **shall** be aware of:

- a) the energy policy;
- b) their contribution to the effectiveness of the EnMS, including achievement of objectives and energy targets, and the benefits of improved energy performance;
- c) the impact of their activities or behaviour with respect to energy performance;
- d) the implications of not conforming with the EnMS requirements.

Awareness covers anyone in the organisation or as the Standard puts it: "Persons doing work under the organisation's control". The awareness requirement is wide ranging covering energy policy, EnMS, objectives and energy targets, the benefits of improved energy performance and the implications of not conforming with the EnMS requirements.

Careful thought is required on meeting these very specific awareness requirements. The awareness raising method needs to be carried out cost effectively but also effectively so that if an employee is

randomly selected for interview during an audit, they would be knowledgeable and be equipped to answer questions in all the areas specified.

7. Communication

Clause 7.4 states:

7.4 Communications

The organisation **shall** determine the internal and external communications relevant to the EnMS, including:

- a) on what it will communicate;
- b) when to communicate;
- c) with whom to communicate;
- d) how to communicate;
- e) who communicates.

The organisation shall establish and implement a process by which any person(s) doing work under the organisation's control can make comments or suggest improvements to the EnMS and to energy performance. The organisation shall consider retaining documented information of the suggested improvements.

This clause covers internal and external communication in relation to the EnMS. A communication plan should be produced which addresses internal and external aspects. The external communication should relate to identified interested parties and risks and opportunities. For internal communication a feedback mechanism should be in place for suggestions to improve the EnMS and energy performance.

8. Operation, Design and Procurement

In Clause 8 of the Standard are key people sub-clauses relating to:

- Operational planning and control
- Design
- Procurement

Each of these clauses has a significant people element and provide fertile ground for creating on-going energy savings by engaging those responsible for these vital functions.

9. Case Study - Ibstock Brick

Ibstock Brick was the first brick-making company in the UK to be certified to ISO 50001.

Ibstock Brick

*Ibstock's motivation for implementing ISO 50001 was to make better use of the energy we consume and achieve consistency in production processes through our **people**.*

*We are extremely proud of what the ISO 50001 process has achieved as it has given us a clear road map, effective communication tools, supportive **external partnerships** and, above all, **employee involvement** at all levels.*

Michael McGowan
Group Sustainability Manager
Ibstock Brick



In this quotation it is noticeable how people, communication and employee engagement feature in the benefits perceived by the company.

In November 2019, Ibstock were awarded the coveted *Behaviour Change/Employee Engagement Award* at *The Energy Awards*. The engagement process was driven by their EnMS certified to ISO 50001.

An extract from the award is as follows:

Ibstock's energy efficiency and wider sustainability ambitions are being achieved by putting people at the heart of the company. The group identified people as the main energy users, and implemented a two-year training plan tailored for significant energy users and all energy users. The aim of the programme was to motivate employees to focus on best practice and take responsibility for their role in managing energy consumption.

Communication has also been key to Ibstock's success. It has been mindful to consider the views of the key stakeholder before embarking on changes to the business and ensuring employees understand and are aware of the group's activities and success.

The benefits of the programme have been substantial and significant. Highlights include:

- On average it now takes almost 65% less energy to make brick than was the case in 1970.
- Energy saving measures means the business is on target to achieve a 15% reduction in CO₂ per tonne of production

In a competitive category, the judges were impressed by the bottom-up approach to ensure the engagement of employees was genuine and sustainable, commenting *“Not only were employees engaged, but results achieved were real and significant. We are confident this program will continue to deliver results going forward, often the problem with behavioural change initiatives.”*

Commenting on the win, **Group Sustainability Manager Michael McGowan**, said:

*“We recognise that we are major energy users, and delivering sustainable performance is a priority for us. Whilst we have invested in energy efficient plant and clean technologies to make performance improvements, we realised that our energy efficiency ambitions could only be achieved by **putting people at the heart of our strategy**.*

*The results achieved are a testament to the way in which our **employees** have become more aware of ways to improve energy usage across our operations. This latest award offers proof that our **hard-working team** is doing the right things and our **people-led** strategies are working.”*

9. Conclusion

Any serious energy management strategy must address the human factor or it will fail. This is true irrespective of whether an organisation implements ISO 50001.

If an organisation decides to put in place an EnMS compliant with ISO 50001, then people solutions will be a key element for success. The Ibstock case study illustrates this point. Every person in every organisation uses energy. People make things happen and people have great potential for energy waste and energy savings. People matter. Therefore people are rightly centre stage in ISO 50001.

To take these principles further to the next stage, please see Part 2 “ISO 50001 – A Lever for Employee Engagement”. This builds on the principles described and how to develop a practical strategy for engaging employees.

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