

STANDARDS

Cutting costs and carbon with ISO 50001

This year marks the global transition to ISO 50001:2018. But is compliance worth the effort and expenditure? John Mulholland makes an argument in the affirmative.

The global energy management system standard, ISO 50001, was first launched in 2011 as ISO 50001:2011. Compared to some ISO standards, it's relatively young and, therefore, there's still significant potential for its widespread application across the planet.

For example, if the number of certifications to ISO 50001 matched those of ISO 14001 – and each organisation saved 1,500 tonnes of CO2 per year – then the global saving would be over 500mn tonnes of CO2 per annum. Needless to say, this would constitute an important contribution towards international carbon reduction and air quality targets, as well as lowering our reliance on fossil fuels. Signing up to the standard is an initiative that is independent of government and is a practical action that any medium-to-large organisation can implement.

A new version of the Standard, ISO 50001:2018, was released in August 2018 and by August 2021 the transition to this new version will be complete by those currently holding certification to ISO 50001:2011. But certification bodies are keen to get clients to transition well before this deadline, so most of the work will be done in 2020. Any organisation wishing to have initial certification of an energy management system (EnMS) must now use ISO 50001:2018.

Global perspective

The standard is gaining momentum across the world and to 31 December 2018, ISO reported there were 18,059 certifications covering 46,769 sites. The top ten countries, by number of certifications, is shown in **Table 1**.

To put this in perspective, there were 307,059 certifications to ISO 14001 – the international standard that specifies requirements for an effective environmental management system – up to 31 December 2018. This means there are 17 times more certifications to ISO 14001 compared to ISO 50001. This shows there is still great

Country	No of ISO 50001 Certifications
Germany	6,243
China	2,364
United Kingdom	1,153
Italy	1,090
France	770
India	674
Hungary	613
Spain	603
Czech Republic	529
Turkey	293
Other Countries (122)	3,727
Other Countries (48)	0
Total	18,059

Table 1. ISO 50001 certifications by country to 31 December 2018

Source: ISO Survey

potential for the application of ISO 50001 across the world.

Table 1 shows that the top ten countries account for 79% of certifications and the remaining 122 countries account for 21% of certifications. The USA has only 59 certifications – the same as Romania. A total of 48 countries have no certifications at all. The statistics in the table were to 31 December 2018. The figures to 31 December 2019 will not be released by ISO until September of this year. It is likely that there are now in excess of 20,000 certifications worldwide and all will need to transition to ISO 50001:2018 by August 2021.

The fact that Germany has a third of all global certifications is not an accident, but the result of decisions by the German government that provide fiscal incentives for those holding certification. While the application of ISO 50001 is a voluntary step, governments need to wake up to the policy opportunity that has been demonstrated in Germany.

In most EU countries, certification to ISO 50001 counts as a route to compliance for the Energy Savings Opportunity Scheme (ESOS). In some EU countries, for some participants, it is considerably less expensive to hold certification to ISO 50001 than

to conduct hundreds of ESOS Energy Audits every four years. This is particularly true in countries where a sampling approach to auditing is not permitted in multi-site organisations.

Does ISO 50001 make a difference?

It takes effort and cost to build an EnMS, to get all stakeholders involved and then go through a certification process. But it is worth the effort? Does the application of ISO 50001 make a difference?

An answer can be found in two case studies on 3M and Schneider Electric. Both organisations have sites across the world and are proactive in energy management. For both companies, some sites are certified to ISO 50001:2011 and some are not. **Figure 1** shows savings in the premises that do have ISO 50001 certification compared to sites that do not. All sites achieved savings but those with ISO 50001 saved 62-65% more energy than those that didn't.

The case studies are significant because they compare performance within organisations where some sites use ISO 50001 and others do not. Therefore, a direct comparison can be made within the two company cultures. The evidence shows that ISO 50001 makes a real difference in energy, carbon and cost reduction.

The human element

One of the main changes in the move from ISO 50001:2011 to ISO 50001:2018 has been the introduction of the 'High Level Structure' (HLS). 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, such as energy review and energy performance indicators.

The energy clauses fall into three specific categories – technical aspects, data aspects and people/behavioural aspects – but are not

Case study – Ibstock Brick

An example of an ‘Energy Conscious Organisation’ (see *Energy World* October 2019) is Ibstock plc, which was the first brick-making company in the UK to be certified to ISO 50001. This has resulted in a fundamental change in culture resulting in significant energy savings per brick produced.

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

Commenting on the win, Michael McGowan, Group Sustainability Manager, 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,’ concluded McGowan.



designated as such in the standard. They are applied to achieve continual improvement in energy performance. All three are interdependent and as such none can exist in isolation. Although the people aspects feature across ISO 50001, the clauses focusing on behaviour change are on leadership, competence, awareness and communication.

In most organisations, technical and data solutions are the focus of 99% of resources, but only 1% of effort and expenditure is devoted to employee engagement. Yet there’s evidence to show that 50% of savings can be delivered through engaging with people. ISO 50001 addresses this imbalance so that employees become a more prominent part of an energy

management strategy.

ISO 50001 is about reducing energy consumption by continual improvement. Although emissions will be saved, the word ‘carbon’ does not appear in the standard. There is not much said about cost saving either. The emphasis is on doing more with less through energy reduction. Carbon and cost savings are simply by-products. Crucially, the standard does not use the word ‘continuous’ improvement but ‘continual’. The latter is more realistic – indicating a positive change over a period of time, in contrast to continuous improvement all the time, which is virtually impossible to achieve.

ISO 50001 lays down energy management principles and sets the related agenda – but is not

prescriptive about how the plan is met. This is because the standard has to be applied across any size or type of organisation, from a police station to a petrochemical complex.

Finally, ISO 50001 is a recipe for culture change, as the Ibstock case study shows. A large part of the answer to climate change is behaviour change which can be achieved by the application of ISO 50001. Gaining certification is a significant step your organisation can make in energy and carbon reduction in the 2020s. ●

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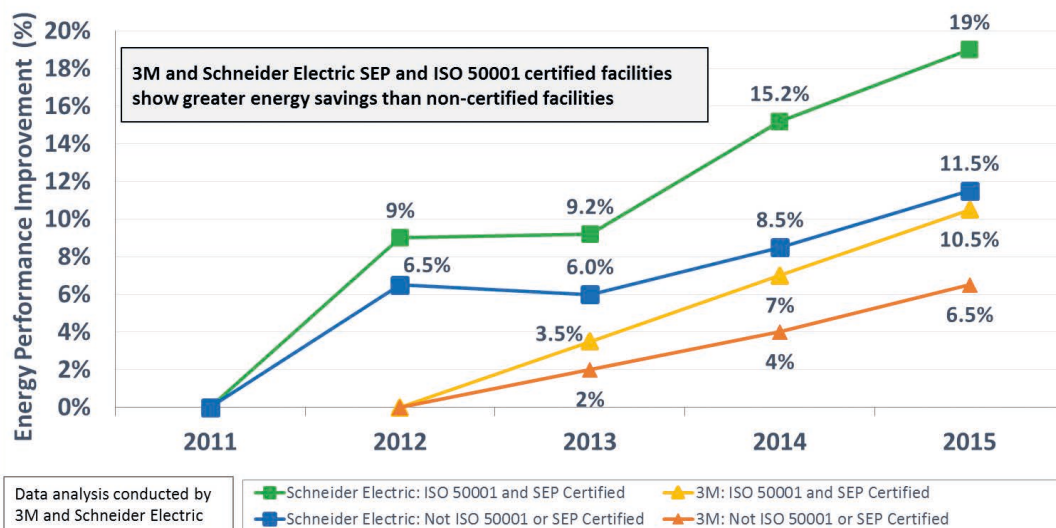


Figure 1. Comparison of savings at sites with and without ISO 50001
Source: 3M and Schneider Electric