Event summary

Energy audits – what they are and how standards can help

25 September 2014

Energy audits and the role of standards

On 25 September 2014, BSI hosted a half-day event on energy audits, specifically covering the energy audit standard, BS EN 16247-1. The 128 attendees also heard how to get started on energy audits, and found out about the UK Energy Savings Opportunity Scheme (ESOS). The morning also included three presentations on applying BS EN 16247-1 in practice.

Opening remarks – 'The standard is important to getting people involved'

Event chair **Martin Fry** is a visiting professor at City University, Honorary President of ESTA, and the Chair of BSI's Energy Management Standards Committee. Professor Fry explained that BS EN 16247-1 contains general principles on how to conduct energy audits. There are also sector-specific parts numbered 2, 3 and 4 to the main standard on energy auditing of buildings, processes and transport respectively. Part 5, on auditor competence will be published early next year. These standards, he said, provide a broad framework to help businesses get involved in energy auditing. The important thing, said Professor Fry, is that energy audits are now recognized as a key part of making energy efficiency improvements.

Standards help organizations make excellence a habit

Amanda Kiely, Sustainability Standards Publishing Manager at BSI, introduced BSI and welcomed attendees. She noted that standards exist to help organizations make excellence a habit. "They contain distilled wisdom of what good looks like," she said. In total BSI has published 32,000 standards. To find out more about BSI's sustainability standards, she urged attendees to visit BSI's Sustainability Standards Navigator – bsigroup.com/Sustainability-Standards-Navigator. Standards, she added, can support compliance, manage risk, provide market differentiation and deliver cost savings.

Getting started on energy audits

Kit Oung is an energy manager, Board Member of EMA, Advisory Member of 2degrees and was heavily involved in writing BS EN 16247-1. Oung wanted to share some tools and techniques for getting started on undertaking an energy audit. He pointed out the poor state of energy efficiency in the UK and highlighted a study by Cambridge University which has calculated that organizations ought to be able to reduce energy use by 73 per cent%. Yet the savings actually achieved are about 1 per cent year-on-year. The biggest reason for this poor result, Oung believes, is a lack of leadership by policy makers. Oung also identified communications as being important: "It's about communicating potential energy savings effectively." Oung urged attendees to consider how reports and presentations will be received and by whom. "Board members," he said, "only spend a minute reading each page." Energy audit reports need to be simple, short, sharp, precise and visual with a modern layout, and they must include tangible recommendations.

ESOS explained

Fionán O'Muircheartaigh, Energy Savings Opportunity Scheme Senior Policy Advisor at DECC, presented on the UK Energy Savings Opportunity Scheme (ESOS). ESOS, he explained, will be mandatory for all organizations with at least 250 staff, or a turnover exceeding €50m and an annual balance sheet of over €43m at the end of 2014, and requires that organizations undertake an energy audit by December 2015.

O'Muircheartaigh outlined the policy development process which had involved consultations with hundreds of organizations. He noted that the UK Government recognised that ESOS presented an excellent opportunity to achieve huge energy efficiencies. "We can save 22 power stations' worth if it's taken seriously," he said. O'Muircheartaigh went on to explain the ESOS process. Energy assessments will be verified or undertaken by a qualified Lead Assessor– their role is to lead the process, and they must be members of an Environment Agency-approved professional body. The professional body will have lists of those competent to act as Lead Assessors. PAS 51215 sets out the competency standards for Lead Assessors, and the Environment Agency will provide supporting information on this.

A lively Q & A session followed. One participant said that even though they employed more than 1,000 people, their energy use was low – shouldn't the policy be focusing on energy use, not staff numbers? O'Muircheartaigh replied that the policy makers were trying to target a population of users who had not previously looked at their energy consumption. Oung added that some organizations were surprised by the amount of energy they consumed in transport, a neglected area. Other questions included:

One delegate asked how you define 250 employees, does that mean FTE? O'Muircheartaigh advised that the definition of number of employees is that used in UK law.

Another participant asked if the evidence pack should be held by the auditor or the organization. O'Muircheartaigh said that the organization should hold the evidence pack.

One attendee asked if on the four-year anniversary organizations need to do a new audit or update what they have? O'Muircheartaigh advised that organizations are required to do a complete audit every four years and that they are required to use data from within the compliance period.

Case study 1 – Saint Gobain Abrasives

Scott Borders, Company Energy Engineer at Saint Gobain, described using BS EN 16247-1 at one of the company's UK sites. He highlighted the importance of producing a report that is not just a collection of statements, but leads the reader to understand what they can do to improve energy use. He added that the standard doesn't give you the skills to audit, but that it provides a good framework around good practice when undertaking an energy audit. He believes that preparation for the audit is key, and that the client must understand that you are there to save them money.

Case study 2 – EDF/Marine Biological Association

Sam Moore, Energy Services Partner, B2B Energy Services at EDF Energy, outlined using BS EN 16247-1 at the premises of the Marine Biological Association. He noted that the standard is a 'simple, logical route' for energy auditing. It starts by asking organizations to understand their own drivers and requirements of the audit. "All stakeholders need to define what they want to get out of the audit at the start-up meeting," he noted, adding, "This is the first step in the journey to getting energy savings."

Case study 3 – UtilityWise/Royal Bank of Scotland

Tim Hipperson, Energy Services Director at UtilityWise and **Malcolm Watson,** Energy Consultant at Clouds Environmental, described using BS EN 16247-1 on a two-storey office block with 500 occupants which is part of RBS's portfolio. Watson reported 'some really interesting results.' Most striking was the difference made by engaging with senior management from the very beginning and throughout the process. Hipperson also noted the value of getting continual feedback on the process and the report.

A Q & A and panel discussion closed the formal part of the day. It was noted that certification to ISO 50001 is a route to complying with ESOS. The panel felt that if a business had an integrated management system already in place then that route is a good option, alternatively an ESOS assessment – including an energy audit – may be less expensive. Meanwhile the Carbon Trust Standard, which focuses on emissions reductions, is not accepted. Martin Fry concluded by suggesting it would be interesting to reconvene in 12 months' time, ahead of ESOS's first compliance deadline. He thanked all attendees. Attendees then spent some time networking and discussing the aspects of the conference over lunch.

Find out more

PDFs of all the case studies can be downloaded at bsigroup.com/bsen16247

ESOS information is available at shop.bsigroup.com/Browse-by-Sector/Energy--Utilities/Energy-Savings-Opportunity-Scheme-ESOS/