

Evidence-based Study into the Benefits of Environmental Management Systems (EMSs) for Small and Medium Sized Enterprises (SMEs)

Project Summary

Small and medium sized enterprises (SMEs) are a vital part of the local and national economy accounting for 99.9% of all enterprises in the UK, and providing 59.8% of all private sector jobs in 2009. Due to their sheer number SMEs collectively have the potential to exert significant pressures on the environment, but face a number of obstacles to addressing these pressures including lack of resources, specific expertise, information and awareness. Despite the vast number of SMEs in the UK a very small proportion hold a certified environmental management system (EMS) from a UKAS accredited body. The purpose of this study was to deliver robust evidence on the environmental and financial benefits of certified EMSs for SMEs by surveying selected SMEs from both manufacturing and service sectors. The subsequent aim was to use this evidence to increase SME uptake of accredited EMSs as a method of unlocking the latent environmental and financial savings that are believed to exist in the SME sector as a whole.

Key Findings

- The international EMS standard ISO 14001 dominated the study's sample of 31 SMEs, which tallies with the market dominance of this standard in the UK. 6 of these had used the BS 8555/Acorn approach to reach ISO 14001, while 3 had remained at a particular BS 8555/Acorn phase.
- Commercial and marketing opportunities were by far the most important initial trigger for the SMEs' decision to adopt an EMS, suggesting that this is more important than cost savings in converting SMEs to the benefits of EMSs.
- Once the decision to adopt an EMS had been made, different drivers to retain an EMS were identified: legal compliance was an important driver for manufacturing SMEs and medium-sized enterprises, whereas sales and marketing opportunities were important drivers for service sector SMEs and small enterprises.
- Certified EMSs delivered cost savings for the majority of the 31 SMEs, with an annual average saving over 2 years of £4,875 per £m turnover. The costs of certifying and implementing the EMS were calculated at £1,362 per £m turnover (annual average over 2 years), therefore suggesting a payback period of 3 months for the cost savings.
- There was considerable variation in the savings seen. Not all SMEs in the study achieved savings and those SMEs that invested more in implementing the EMS upfront achieved the highest savings.
- Just over a third of SMEs in the study felt they had achieved new business sales as a result of their certified EMS, quoting an average value of £14,961 per £m turnover in the year following certification. This suggests a payback period of 1 month for the new business sales alone versus EMS costs. Another third confirmed that they expected new sales to be achieved as a result of their EMS, but could not put a value on it.
- All but one of the SMEs in the study had received requests for information from customers about their EMS and over a half of the SMEs had in turn contacted their suppliers.
- The study's data also showed that 28 SMEs made an average cumulative saving in carbon dioxide equivalent (CO₂e) of 38.9 tonnes per £m turnover per SME and that the carbon savings improved over time, with Year 2 figures up 59% on Year 1 figures.

Methodology

Data was gathered from 31 SMEs that held certified EMSs from UKAS accredited bodies during on-site visits between July 2010 and January 2011. During the site visits, key staff were interviewed, company records and invoices scrutinised and a site tour undertaken. Quantitative data was collected for a baseline year before EMS implementation ('Year 0'), the year of EMS implementation ('Year 1') and the year immediately following certification ('Year 2'). Environmental data collected within each SME was focussed on areas where EMS objectives and targets had been set and/or where it could have been expected to have achieved savings. These included waste to landfill, energy use, fuel use for business travel, business travel distance, water use and raw material use. This data was then converted to financial savings normalised against the company's annual turnover. In each case the SME was asked to estimate how much of the identified saving was attributable to the EMS; 0%, 25%, 50%, 75% or 100%. New business sales were calculated according to the SME's best estimates of the level of increased sales that could be attributed to the EMS. Data was also collected on the costs of the EMS relating to capital expenditure and expenditure on third party certification, internal staff resource and consultancy support.

A qualitative questionnaire was also developed to gather the experiences and opinions of the SME's Managing Director (or other senior manager), the Environmental Management Representative (with responsibility for the EMS) and a general member of staff. The questionnaire focused on the experiences within the company of implementing an EMS, any impacts on behaviour, barriers to implementation and experiences of certification.

Robustness and Limitations

The study's sample of 31 SMEs is the largest group of SMEs to undergo a detailed investigation of its certified EMS in the UK, however it is not a statistically robust sample. Numerous methods were used to recruit SMEs for the study, however the SMEs were not randomly selected and each chose to participate in the study so were therefore 'self-selecting'. For example, those SMEs with more favourable experiences of EMSs could be considered more likely to participate. It is also possible that those SMEs with less favourable experiences wanted to obtain the independent consultancy support offered through the study. Therefore it cannot be assumed that this sample is representative of the total population of UK SMEs with certified EMSs. And because of the low numbers in the sample, the results should be viewed as a series of case studies from which useful data can be drawn to raise awareness of the potential benefits of an accredited EMS for an SME.

The level of financial savings achieved was measured quantitatively using a robust methodology after which the SMEs were asked to assign an attribution value using a subjective approach. The assessment of new business sales that could be attributed to the EMS was also assessed by the business itself. However, an external auditor making the same judgement was considered less reliable, and assuming that a general percentage of the savings identified were as a result of the EMS would also have been inaccurate given the variation seen between SMEs in EMS implementation methods and resources committed to the process. Therefore the SME's own judgement should be considered robust for the purposes of this study.

Further Information

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