Assess and save

New regulations requiring large organisations to assess their energy use every four years may save millions, but **Ian Masters** warns that compliance will be strictly enforced

The Energy Savings Opportunity Scheme (ESOS) Regulations came in to force on 17 July, mandating every large organisation in the UK to carry out an assessment of its energy use every four years. The first cycle started on 6 December 2011 and qualifying organisations must submit their first ESOS assessment to scheme administrator the Environment Agency (EA) by 5 December 2015. The Department of Energy and Climate Change (DECC) has estimated that ESOS could benefit businesses in the UK by up to £1.6bn.

Do we qualify?

A UK organisation will have to comply with ESOS if, based on data for the 12 months immediately preceding the qualification date of 31 December 2014:

- it has more than 250 employees
- it has fewer than 250 employees but annual turnover exceeds €50m and balance sheet exceeds €43m.

Organisations that must adhere to the UK public contract regulations (public bodies) are not subject to the ESOS Regulations. However, some universities may need to comply depending on how they are funded. Those that derive more than half their income from private sources, e.g. fee-paying students, may not be bound by UK public contract regulations and would therefore need to participate in ESOS if they are deemed to be a large organisation.

How to become ESOS compliant?

If a qualifying organisation has implemented an ISO 50001 compliant Energy Management System (EMS) across all significant areas of energy use, then it does not need to complete an ESOS Assessment provided certification has been completed before 5 December 2015 and the EA has been advised accordingly.

This may be the route chosen by larger ESOS participants, particularly those organisations that wish to do more than simply comply. An ISO 50001 EMS will embed good energy management practices in all aspects of the business and is likely to deliver greater energy and cost savings than alternative compliance routes – possibly as high as 30% over time.

It will also indicate to customers and potential customers that the organisation proactively manages its energy use and is continually looking for opportunities to make further reductions. The ISO 50001 compliance route may also be the most appropriate for those participants with a frequently changing portfolio and hence baseline energy consumption.

If an ESOS participant has implemented ISO 50001 in part of the organisation, an ESOS Assessment must be carried out to determine what additional work is required for the whole organisation to comply. Those qualifying organisations that are not fully covered by ISO 50001 will need to carry out an ESOS Assessment to:

- determine the total energy used by its buildings, industrial processes and transport. Energy consumption can be measured in terms of energy (kWh) or expenditure (£)
- identify where 90% of the energy is used (areas of significant energy use) and establish whether any areas are fully or partly covered by ISO 50001, Display Energy Certificates (DECs), which must be accompanied by an Advisory Report or Green Deal Assessments (GDAs)
- determine, for those areas not fully or partly covered by ISO 50001, DECs or GDAs, whether ESOS-compliant energy audits need to be carried out to identify energy saving opportunities. Audits must follow a recognised methodology, for example BS EN 16247 or ISO 50002. In some cases, a more specialised methodology may be considered more

appropriate, for example ISO 16346:2013 – Energy Performance of Buildings may be a more suitable for assessing the energy-saving potential of a building.

ESOS participants in the commercial sector, in particular those with relatively small property portfolios, may find that DECs provide a cost-effective way to comply. While DECs are compulsory for all buildings with a useful floor area over 500m² that are occupied by a public body and frequently visited by the public, any private organisation can choose to obtain a DEC and the accompanying Advisory Report.

The DEC compliance route is limited to building energy use, and because each individual building would need a DEC it is unlikely to be practical for large building portfolios. Similarly, using GDAs to comply with ESOS is likely to be only practical for small building portfolios because they will be required for each building.

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An ESOS lead assessor must be appointed to review and sign-off the assessment. However, it is considered to be good practice for the lead assessor to be appointed early in the process to:

- provide guidance and support when the energy data is being compiled
- provide guidance on the most cost effective route to compliance
- determine whether energy audits already completed during the compliance phase comply with ESOS
- oversee or undertake other elements of the ESOS Assessment and audit.

ESOS lead assessors may be in-house specialists or external consultants provided they are members of a professional register determined by the EA to meet the requirements of PAS 51215 – Energy efficiency assessment. Competence of a lead assessor specification.

Each qualifying organisation must notify the EA before 5 December 2015 that it has complied with its ESOS obligations and recorded the details in an evidence pack. Failure will lead to reputational and financial penalties.

The penalties

The compliance bodies – the Environment Agency in England, Scottish Environment Protection Agency in Scotland, Natural Resources Wales in Wales and Northern Ireland Environment Agency in Northern Ireland – have the authority to levy civil penalties against any ESOS participant found to be non-compliant with the regulations. Details can be published on their websites. Penalties include:

- **Failure to notify the scheme administrator of compliance by the required date:** a fixed penalty of up to £5,000 and/or an additional £500/day until the notification is complete (up to a maximum of 80 days)
- **Failure to maintain adequate records:** a fixed penalty of up to £5,000 and/or the cost to the compliance body for undertaking sufficient auditing to confirm compliance
- **Failure to undertake an ESOS Assessment:** a requirement to complete an ESOS Assessment by a specified date and/or a penalty of up to £50,000 and/or an additional £500/day while the participant remains non-compliant (up to a maximum of 80 days)
- **Failure to comply with an enforcement, compliance or penalty notice:** a fixed penalty of up to £5,000 and/or an additional £500/day until the notification is complete (up to a maximum of 80 days)
- **Making a false and misleading statement:** a fixed penalty of up to £50,000.

The benefits

The overriding objective of ESOS is to make UK businesses more energy efficient, which in turn will help them to reduce operating costs. DECC has carried out a comprehensive impact assessment to determine the overall benefits (see Table 1).

Over the same period, the additional cost to the commercial sector of conducting ESOS assessments is an estimated £50m *(http://bit.ly/1uDpPVf)*.

It is clear that for most participants, the cost of ESOS compliance will be outweighed by the energy and cost reductions identified. However, the cost savings will only be realised if the opportunities are implemented and organisations must bear this in mind when allocating a budget, otherwise ESOS will simply be a cost burden. Businesses should not view ESOS compliance as a destination but as the start of the journey towards a more energy-efficient, lower cost-base business. C

Table 1

ESOS benefits

	Buildings	Industrial processes	Transportation	Total
Total savings 2015–30 (TWh)	21	16	15	52
Estimated cost savings	£646m	£492m	£462m	£1.6bn
Implementation costs	£68m	£224m	£458m	£750m

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Related competencies include **Environmental management**

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