

What will ESOS mean to you and your organisation?



As a result of previous legislation requirements, the UK Government has had to consider how it implements Article 8 of the Energy Efficiency Directive. The Article, which was agreed by EU members in October 2012, requires the introduction of “....regular energy audits for large enterprises.....” .

The UK legislation is to be known as ESOS the “Energy Savings Opportunities Scheme” and now is time to prepare your business for participation and accreditation.

Outline:

Large enterprises are responsible for a significant portion of energy demand and therefore are well placed to reduce energy and emissions.

However, the EU believe that ‘opportunities’ to reduce energy demand are either not realised or not valued highly enough by ‘large organisations’; this legislation is being introduced to create a defined process of portfolio review, from which analysis will identify common trends and opportunities to change and reduce consumption (and thereby emissions).

The three key elements are:

- Measurement of total energy consumption of buildings’ processes and transport activity
- Audit process
- Identification of savings opportunities.

DECC (Department of Energy & Climate Change) themselves recognise that only c6-7% of all opportunities are actually realised due to lack of investment or lack of desire. The legislation itself cannot force the installation of energy saving equipment or define how your organisation may use, waste or save consumption. It’s all about portfolio review and high level ideas being recorded which may now, as by being part of a compliance process, lead to energy savings.

“Overall ESOS should be seen as an opportunity for businesses to focus on their organisation’s premises and processes to see how it may save energy and reduce emissions” believes Peter Leggett, Carbon and Energy Consultant at IMServ. “It will help companies to inwardly consider long-term rather than short-term gains, with the intent to widen the eyes from building analysis and transport analysis. Savings identified from specific audits may enable organisations to then consider benefits that scale upwards and ‘cross portfolio’.”

Who is in the scheme?

Any large enterprise, which by DECC definition is an organisation that carries out a trade or business which at, or, in the 12 months preceding 31st December 2014:

- employs at least 250 persons; or
- employs fewer than 250 persons but has an annual turnover in excess of 50 million euro and an annual balance sheet in excess of 43 million euro



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The audit should consider building energy in terms of base and peak load to identify areas or times of potential waste. From this, common savings opportunities in buildings are likely to be recorded through outputs such as heating, ventilation and lighting. Industrial processes are likely to find that the data points to opportunities around refrigeration, motors pumps and drives, and fleet records may offer indicators on driver fuel performance, route planning or maintenance.

Each element needs to reference the data, articulate the opportunity and the audit itself be subject to external scrutiny.

The audit report needs to record the opportunity benefit in terms of `Life Cycle Cost Analysis` rather than `Simple Payback Period`. Therefore whilst the organisation is not obliged to implement any of the identified saving opportunities the intent is that once the life cycle is considered, more savings activity will be undertaken.

Overview

In energy terms, organisations know opportunities exist in all buildings and in many processes. The challenge for each participant is to identify, understand and promote the benefits of energy and emission reduction over time, within the boundaries of their business activity and budget.

IMServ has long been central to UK electricity measurement and management activity and within the past five years has successfully provided savings to significant building portfolios with installation of control devices and aided process management improvements with sub-meter, logger or BMS installations.

Peter Leggett explains, "IMServ is already involved in various measurement and process activities, which actively place data at the heart of management. Our meter and data services collect c35% of all UK electricity consumption every day, providing web access via EDV for energy managers. Through our control installations we have achieved energy reduction in buildings of up to 30% and have expanded our service offering for smaller premises with our control 10 device, bringing energy reductions which make significant contributions to complex portfolios"

"Against a recent backdrop of rising utility prices, large organisations should, by default, be investing in metering, utility management analysis and solutions. One can argue that it should not need intervention of legislation to enhance existing business processes, but ESOS will endorse historic projects that may otherwise not have been started and will open the door to new reduction opportunities. We expect businesses to look beyond simple percentage saving or 24 month payback, to the longer term advantages and sustainability benefit that exists."

What is required to comply?

If 100% of your organisation energy portfolio is already covered by ISO50001 Energy Management accredited systems, you will be compliant within the scheme boundaries and only need notify the Environment Agency of activity associated with this standard, who will hold a central register.

For organisations whose portfolio is not fully accredited with ISO50001, some activity is required and an ESOS Assessment will need to take place. The first round of ESOS assessments will need to be provided by 5th December 2015.

To comply, each organisation will need to appoint a 'lead assessor' - this can be an employee or external party, provided they are listed as a member of an 'approved professional body'. A more complete registration process with contact details will be published later, in 2014 by DECC.

What data do I need?

The prime activity is measurement and data analysis to enable your organisation to account for its energy impacts in either energy 'kWh' or monetary terms. Such data has to be 'verified' through evidence based records back to a primary source; such as metering, stock or fleet fuel records.

Many organisations will be participants in the CRCEES (Carbon Reduction Commitment Energy Efficiency Scheme) and have access to much of their 'building energy' information for electricity and gas through an array of automated metering. Others may look to build data tables from accumulating paper bill information. Where processes are involved, there may be other liquid fuels or gases to consider, or even heat energy from district schemes.

Energy aspects can be aggregated by business groups with complex organisations, but in all cases the initial reference data set has to be based on 12 months consumption, which has occurred from the 1st January 2014, ready for the initial submission.

What will I need to audit?

Once data collection is completed, the ESOS audit assessment should focus on those activities or assets that consume 90% of the energy consumption; the 'significant energy'. Some flexibility exists with de-minimis rules that may allow you to exclude 10% of energy measured, either in terms of business group undertakings or even fuel types.

More detailed information is provided in the DECC document 'Guide to ESOS Version 1 June 2014' available online www.gov.uk/decc.



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