

Energy Savings Opportunity Scheme (ESOS)

Corporate Briefing

The increasing risks associated with business energy use are set for greater recognition in board rooms across the country under Government proposals to introduce a mandatory Energy Savings Opportunity Scheme (ESOS) for large UK firms in 2015.

On the 14th November 2012, Article 8 of the EU Energy Efficiency Directive (2012/27/EU) entered into force requiring Member States to establish an energy audits regime for all non-SME enterprises. The 'Energy Savings Opportunity Scheme' is the UK Government's proposed approach to implementing Article 8.

Under the scheme, approved assessors will carry out ESOS compliant energy audits to identify cost-effective energy savings opportunities in participant buildings, industrial processes and transport. It is estimated that around 7,300 large UK enterprises occupying between 170,000 and 200,000 buildings (of which 8,000 to 10,000 are industrial plants) will be covered by the legislation – representing approximately one third of total British energy demand.

Carbon Credentials has prepared this paper as a comprehensive introduction to the incoming rules. Additional information will be made available as and when the Government release the results of the recent public consultation.

The Energy Trilemma

Policymakers recognise that firms currently face an 'energy trilemma' composed of three core dimensions: security of supply, emissions and rising bills. To help ensure business continuity, manage organisational environmental impacts and reduce operational costs, governments are increasingly introducing legislation focused on managing energy demand.



The EU has been at the forefront of such thinking – having committed itself to a 20% reduction in energy usage across Member States by 2020. As a result, the transposition of Article 8 into UK law is subject to tight timescales. The Department for Energy and Climate Change (DECC) has stated it plans to implement ESOS by Spring 2014, with the first energy audits required to be carried out by the end of 2015. Clearly, those who chose to tackle the scheme's challenges and opportunities now will be in a better position to capitalise on its significance than organisations that adopt a 'wait and see' approach.

The Implications for Business

DECC's 2012 Energy Efficiency Strategy identifies 4 categories of market failure that prevent firms making otherwise cost-effective investments in energy efficiency: information failures, misaligned financial incentives, embryonic markets, and undervaluing energy efficiency.

ESOS is predominantly designed to address the first of these, by improving the availability of trustworthy and specific advice on how large organisations can reduce their operating costs through energy efficiency. However, there is a risk that the introduction of mandatory energy audits may alter companies' perception of energy performance into a burdensome compliance activity that requires a 'tick-box', rather than an opportunity to unlock energy and cost saving opportunities.

If approached correctly, ESOS is a great opportunity for organisations that recognise the initiative as an enabler of energy performance improvement – rather than a narrow compliance exercise alone. It is estimated that the average large company should realise savings worth £56,400 per year on energy bills as a result of ESOS. Participating organisations are also expected to benefit from reduced exposure to carbon taxation, increased productivity, asset value enhancements, greater competitive advantage and improved environmental credentials.

"Investing in energy efficiency can hugely benefit our big businesses, helping British businesses get ahead in the global race. Energy saving assessments will show exactly where the biggest savings can be made and if firms then go forward and invest, they will soon see the benefits"

Michael Fallon Minister of State for Energy

The Australian Example



The incoming ESOS regulations are directly influenced by programmes outside the EU that have already been highly successful in helping organisations to achieve reductions in their operating costs by understanding and communicating the value of investments in energy efficiency.

In 2006, the Australian Department for Resources, Energy and Tourism launched a mandatory energy audit programme called "Energy Efficiency Opportunities" that covered all large private sector energy users. At the time, these firms were responsible for approximately 60% of total Australian energy usage.

By 2011, audits covered 92% of total participant energy consumption. Assessments were required to be highly tailored and specific, focusing on measures with a payback of less than four years and including a cost-benefit analysis. In addition, firms had to report publicly on their business response to energy efficiency.

A 2013 departmental policy review found that, in the period up to 2011, firms had committed to or already implemented approximately 54% of the recommendations identified by the audits, leading to average energy savings that amounted to around 5% of total consumption.

The programme review concluded that approximately 41% of the total energy efficiency improvements were additional benefits driven that would not have occurred in the absence of a mandatory energy audits programme.

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What will an ESOS assessment involve?

Implementing Article 8 of the Directive is an EU legal obligation. As a result, the UK is required to include the following minimum criteria as part of ESOS assessments:

A

Assessments must comprise a review of the total energy use and energy efficiency of the organisation. This would include measuring an organisational energy intensity ratio (e.g. kWh/employee FTE) and, as appropriate, considering the variation in energy use over time within key buildings, key industrial operations, and key transport activities

B

Assessments must build, whenever possible, on life-cycle cost analysis (LCCA) instead of Simple Payback Periods (SPP) in order to identify and quantify long-term savings, residual values of long-term investments and discount rates

C

Assessments must be proportionate, and sufficiently representative to permit the drawing of a reliable picture of overall energy performance and the reliable identification of the most significant opportunities for improvement

Participants will be allowed to use existing data from other regulatory obligations (including CCAs, CRC, EU ETS etc.) for ESOS compliance purposes. The data used in energy audits must then be maintained for 6 years in order to allow

for historical analysis and performance monitoring.

To achieve compliance, businesses will therefore need to identify an approved assessor, gather the necessary data,

undertake the assessment and maintain records of the results. Once the first ESOS assessment is completed in 2015, further audits must then be carried out at least every 4 years.

Definition of a large enterprise as according to Title I of the Annex to Commission Recommendation 2003/361/EC

≥250 employees



either an annual turnover of ≥€50m
or an annual balance sheet ≥€43m (or both)

Summary of Proposals

DECC's stated objectives in transposing the legislation are to promote the take up of cost effective energy efficiency measures whilst minimising compliance costs to business. While the above section shows many of the key features that ESOS must include, the scope for flexibility and interpretation is being considered as follows:

Inclusion

For the purposes of the Directive, 'enterprise' is defined as 'any entity engaged in an economic activity, irrespective of its legal form'. This means that ESOS may not only apply to large private sector companies but also include:

- Charities
- Partnerships
- CICs
- Unincorporated associations; and
- Certain universities

However, the regulations will not apply to public sector organisations. Neither will small and medium enterprises (SMEs) be required to participate, unless they are part of a large corporate group enterprise.

Corporate Groups

Government are proposing to allow corporate groups to 'disaggregate' if they so wish. This means that group companies would be able to conduct separate ESOS assessments for individual subsidiaries as defined by the accounts, providing that no significant subsidiaries were excluded. Participants will recognise this from recent simplification changes to the CRC.

In addition, it is proposed that ESOS would only target those corporate groups where one or more large (i.e. non-SME) UK companies exist within the corporate group. Article 8 makes it clear that such large group enterprises should be covered by energy audits, including their SME subsidiaries, and the inclusion of subsidiaries is also a feature of the CRC

scheme. However, if every UK company in the group enterprise was an SME, the group would thus not be covered by ESOS.

Finally, the Government propose that a qualification date is set so that companies can easily determine whether or not they are required to participate in the scheme.

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Scope

Rather than require development of consumption profiles for all key sites, transport and processes, it is instead proposed that an intensity ratio is measured for the organisation as a whole. ESOS assessors would then be permitted to use their professional judgment to determine how they then approach individual organisations, including what would be 'proportionate' to take in to account:

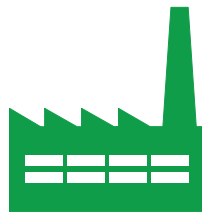
Key Proposals for Buildings

- Assessors will exercise discretion as to the number of site visits that they undertake
- Sites which have valid Display Energy Certificates or have undertaken Green Deal Assessments within the previous four years could be deemed ESOS compliant for those buildings
- Assessments should only cover energy use which organisations directly pay for



Key Proposals for Industrial Processes

- ESOS assessments should cover all industrial use of energy, including where it is directly produced by an organisation.
- Data used may be that already collected if, for example, a process is covered by a Climate Change Agreement



Key Proposals for Transport

- Large transportation companies, including those in the rail, road haulage, aviation and shipping sectors, will need to have the energy efficiency of their fleets included in ESOS assessments.
- Government is currently considering what energy usage should, as a minimum, be included within assessments in relation to international aviation and shipping.



Exemptions

The Government propose that any organisation with a current EN ISO50001 Energy Management System certificate would be deemed ESOS compliant, the principle being to avoid double regulation. Any audit certified via a UKAS approved body and carried out to EN 16247 standards would also be considered compliant.

Similarly, organisations with an ISO14001 Environmental Management System certificate would be deemed ESOS compliant, providing the approach taken has included an energy audit that meets the minimum standards of Article 8.

Enforcement

Three bodies are currently being considered to provide regulatory oversight: Environment Agency, National Measurement Office, and Trading Standards. The scheme administrator would be empowered to impose monetary penalties for non-compliance, including civil sanctions for certain breaches of the scheme as a last resort. The consultation document indicates that the Environment Agency is currently the preferred regulator.

Compliance Reporting

The UK Government is under a legal obligation to provide regular information to the EU Commission about the uptake of energy audits in the UK. As a result, DECC are considering a wide range of potential approaches to reporting compliance with the ESOS scheme, including:

Option 1 Survey-based assessment of take-up	Option 2 Basic notification to scheme administrator	Option 3 Public disclosure (e.g. in annual report)
Option 4 Notification to scheme administrator with compliance costs recovered from businesses	Option 5 Central reporting of comprehensive auditing results to scheme administrator	Option 6 Mandatory site audits with Display Energy Certificates (DECs) for all buildings over 250m ²

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Energy Risk

ESOS brings further confirmation that now is the time to act on energy risks and opportunities affecting both your current and future business performance. Do you know how your organisation plans to respond to the following?

- Higher and more uncertain energy prices
- Tightening carbon regulation
- Rising carbon costs

- Reputational issues around climate change
- Increasing technological and regulatory complexity
- Lack of internal resource for energy and environment

Clearly, firms must spring into action in order to avoid the above constraints from reaching unmanageable proportions in the near term. Implementing a strategic

energy management programme can help protect your business from the negative financial and operational impacts of exposure to the energy markets and growing climate change legislation.



Summary of Proposals

Carbon Credentials has been working with a variety of clients that have decided to mitigate these risks through improved management of operational energy consumption and active pursuit of kilowatt hour reductions. Our work gives organisations the visibility and understanding required to identify and act on opportunities for energy conservation and efficiency - leading to measureable cost savings.

Those that take a similar attitude to the incoming ESOS regulations are more likely to experience bottom-line benefits, whilst organisations that adopt a 'tick-box' approach to compliance may suffer rising costs as their exposure to energy and carbon risk continues to grow.

Our Energy Performance Improvement Programme (EPIP) is designed to unlock clients' full energy performance potential through rigorous assessment based on robust energy and investment analysis. We work with energy managers to present the right business case for decision-maker approval and our combination of technical, financial and people skills helps companies to get agreed projects off the ground quickly.

Our understanding of procurement options and cost-effective energy performance solutions helps companies to find the optimal route to financing and procuring energy improvement projects that can be measured, verified and aligned to business objectives.

Our EPIP begins with tailored and specific information so that clients are able to accurately assess the benefits of an energy efficiency investment. Not only do we achieve clarity and assurance in generating such a business case, we are then working with clients to finance, build, implement and manage their projects successfully.

We help to improve organisational energy performance in three clear steps

1. Techno-Economic Energy Audit

Carbon Credentials provide thorough analysis of energy data with readily-useable guidance in a way that is highly comparable to the proposed ESOS requirements as they stand.

Our engagement features techno-economic modelling in order to quantify the performance improvement opportunity through a defined range of feasible Energy Conservative Measures (ECMs) - tailored to the building and the budget available. This delivers an explicit and strategic understanding of performance risk mitigation and financing options so that decision-makers can approve available investment opportunities with confidence.

2. Successful Project Delivery

The purpose of our next stage is to fully deliver and commission a carefully considered energy improvement project. This includes managing any tender process to select a project delivery company, as well as sourcing, negotiating, structuring and securing project finance if applicable.

Our team help build and negotiate commercial terms of contract that enable maximum client value, whilst providing on-going advice and quality assurance as part of a full Measurement and Verification (M&V) plan. In addition, Carbon Credentials oversee project management throughout the construction phase - enabling seamless procurement and management of an optimal energy performance solution.

3. On-going Programme Management

Our programme doesn't end once any equipment or initiative has been installed. Carbon Credentials provide continuous assurance and optimisation of the delivered solution through on-going project M&V, as well as client-side technical and commercial advice.

Board and stakeholder reporting ensure good communication so that client objectives are continually met and the likelihood of identifying further performance improvement measures is kept high.

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“Effective energy efficiency means cutting out waste and increasing profits. These new energy saving assessments will help our largest firms identify where money can be saved by installing energy efficiency measures.”

Greg Barker - Minister of State for Energy and Climate Change

What you should do next

Following the recent consultation, Government will analyse responses and develop secondary legislation setting out the legal framework for ESOS by Spring 2014. Good practice non-statutory guidance will also be developed to support both organisations and assessors in conducting ESOS assessments (for example, on what constitutes a 'key building').

With only a matter of months before the regulations enter into force, it is therefore vital that you confirm with your Company Secretary or Head of Finance whether

your organisation will be required to participate in the scheme.

Legislation related to climate change and energy efficiency continues to evolve and place new requirements on UK businesses. As such, it would be prudent to establish an Energy/Carbon Steering Group to ensure that your company maintains a proactive approach to risk management. Board buy-in will also be vital in helping to secure appropriate resources - this may prove easier than expected should ESOS results be required for disclosure within the directors' report.

Stay up-to-date. Research best practice. Speak to us.

An assessment of your current approach to energy management is highly recommended. Take time to understand the energy consuming activities across your company's buildings, industrial processes and transport. Understand the ways in which energy data is measured, collated and stored. Adopt an approach that goes beyond simple compliance to ensure that your company is able to manage energy risk and take advantage of the new rules once they come into effect.

ESOS will help make energy management a strategic priority within the business so that companies can begin to proactively reduce costs and cut carbon emissions. Carbon Credentials are already providing leading energy services to some of the UK's largest organisations. Our work with companies ensures that they receive the kind of actionable information that ESOS is designed to promote. Our focus is centred on delivering clear business benefits to clients, so that value for money can be achieved from compliance, and successful investments in energy efficiency can be made with attractive payback periods.

If you are a CRC participant

Of the 7,300 businesses expected to fall into ESOS, up to 6,000 are set to be already captured by the CRC Energy Efficiency Scheme, as well as mandatory emissions reporting.

DECC analysis suggests that ESOS has the greatest synergy with the CRC Energy Efficiency Scheme, particularly given the number of organisations that CRC covers, its energy measurement requirements, and its focus on organisations as a whole.

In fact, most large enterprises covered by ESOS will already be measuring some of their energy usage under the CRC. Many aspects of compliance will be similar and so CRC participants will find it easier to comply with ESOS.

Diagnostic



Do you have the correct data collation/management abilities, systems, processes and resources in place?



Do you have any current organisational energy/carbon reduction targets in place?



Have you conducted a comprehensive assessment of your overall approach to energy management?



Have you considered how you might finance any recommendations made through ESOS in order to improve the energy efficiency of your organisation?



Are you confident that you understand how energy is consumed across not only the buildings your company occupies, but its industrial processes and transport as well?



Is your board currently aware of the cost implications to your business around energy and carbon? Are they supportive of energy efficiency and carbon reduction initiatives?

Carbon Credentials is one of the UK's leading independent energy performance and sustainability advisors.

We are experts in building actionable business cases for investment in energy efficiency. We have worked with a number of large private companies that choose our services to help them measure, manage, report and reduce their energy consumption and associated emissions. Our mission is to be the UK's most innovative, practical and effective sustainability services provider.

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