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Mitsubishi Electric Guide to the Energy Savings Opportunity Scheme



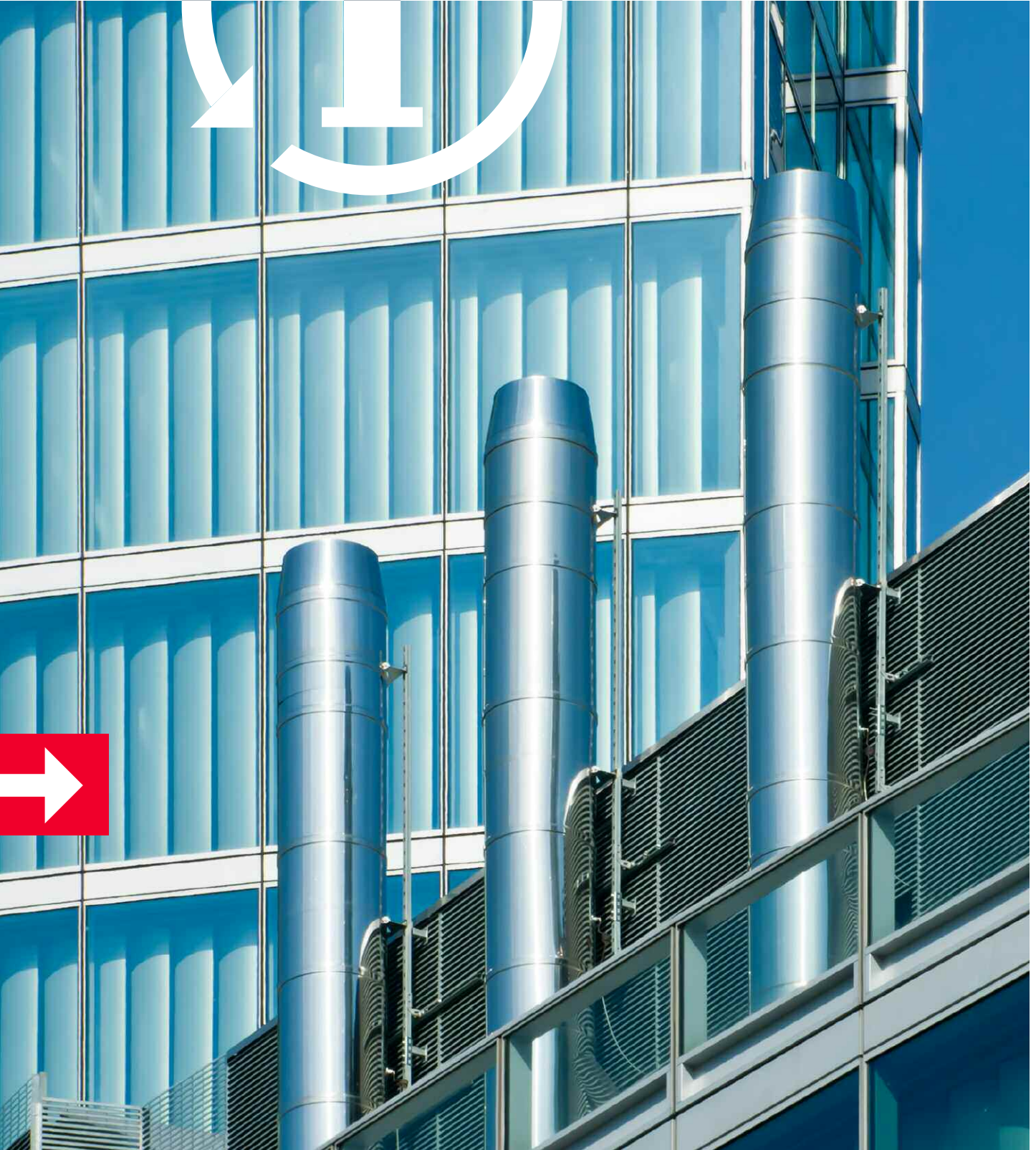
Information Guide

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Air Conditioning | Heating
Ventilation | Controls





Mitsubishi Electric Guide to the Energy Savings Opportunity Scheme



This is an independent guide produced by Mitsubishi Electric to enhance the knowledge of its customers and provide a view of the key issues facing our industry today.

This guide accompanies a series of seminars, all of which are CPD certified.

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Measures of success

The European Union Energy Efficiency Directive (EED) was introduced in 2012 to help the EU meet its 20 per cent energy saving target for 2020. The Directive also mapped out key requirements countries would need to meet on the way to that goal.

One of these requirements was the obligation on each Member State to set an indicative national energy efficiency target by 30 April 2013. Therefore, by April 2014 the UK National Energy Efficiency Action Plan was introduced and the Government set a target of 18% reduction in final energy consumption for 2020 - relative to the 2007 "business as usual" projections. In real terms this is 129.2 million tons of oil equivalent (mtoe) for final energy consumption in 2020.

The second requirement of the EED (Article 7) called on countries to achieve targeted final energy savings during a set obligation period - from 1 January 2014 to 31 December 2020. The target is equivalent to achieving 1.5% of annual energy savings to final customers each year during that period.

These savings must be achieved using energy efficiency obligations schemes or other measures to drive energy efficiency improvements in households, industries and transport sectors.

And the third key obligation, specified in Article 8 of the Directive, is for large enterprises to carry out an energy audit at least every four years, with a first energy audit at the latest by 5 December 2015.



This third point now comes into focus for the UK market with the introduction by the Government of the **Energy Savings Opportunity Scheme (ESOS)**.

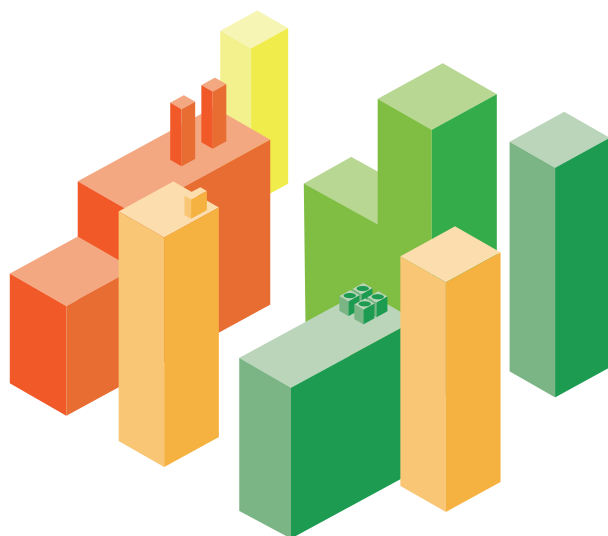
Designed to comply with this Article 8 obligation set down by the Directive, the scheme is a mandatory energy assessment mechanism for organisations in the UK, managed by the Environment Agency.

As stipulated by Europe, organisations that qualify for ESOS must carry out assessments every four years, with the first to be completed by the end of 2015.

These assessments are audits of the energy used by their buildings, industrial processes and transport, to identify cost-effective energy saving measures that could be implemented.

ESOS applies to large UK undertakings and their corporate groups, which the Agency defines as an organisation that carries out a trade or business, which either:

- Employs at least 250 people
- Employs less than 250 people but have an annual turnover in excess of €50 million, and an annual balance sheet in excess of €43 million





Complying with the scheme

In simple terms, compliance can be achieved in three steps:

- 1. Measure total energy consumption across buildings, transport and industrial activities**
(At least 90% of energy use must be covered by the assessment)
- 2. Conduct energy audits to identify cost-effective energy efficiency recommendations**
- 3. Report compliance to the Environment Agency** (as the scheme administrator)

Audits must be carried out by qualified 'Lead Assessors' in order to comply with ESOS. Companies are urged by the Agency's guidance to select an assessor with specialist knowledge of their sector, and they have compiled the following current list of approved registers of lead assessors:

Organisation and name of register

- Association of Energy Engineers - Certified Energy Auditor-International CEA-I
- Association of Energy Engineers - Certified Energy Manager International (CEM-I)
- Elmhurst Energy Systems - Elmhurst Approved ESOS Lead Assessor
- Energy Institute (EI) - Chartered Energy Manager
- Energy Institute (EI) - Register of Professional Energy Consultants (RPEC)
- Institution of Chemical Engineers - Register of Chartered Chemical Engineers (MIChemE/FIChemE) ESOS LEA
- Inteb - nteb ESOS Register
- Quidos - ESOSRegister.com
- Stroma Certification Ltd - ESOS Lead Energy Assessor Certification
- CIBSE (The Chartered Institution of Building Services Engineers) - The CIBSE Low Carbon Consultant (LCC) Register, ESOS Lead Assessor Subset
- The Energy Managers Association - EMA Energy Saving Opportunity Scheme Lead Assessor Register
- The Institute of Environmental Management and Assessment - Environmental Auditor & Full membership of IEMA (ESOS Lead Assessor Subset)
- The Institute of Environmental Management and Assessment - Principal Environmental Auditor (ESOS Lead Assessor Subset)

Compliant reports must meet the following criteria:

1. It must be based on 12 months' verifiable data

The data must:

- Be for a continuous period
- Begin no earlier than 6 December 2010 for the first compliance period (and no more than 12 months before the start of future compliance periods)
- Begin no more than 24 months before the start of the energy audit
- Not have been used as the basis for an energy audit in a previous compliance period

2. It must analyse the participant's energy consumption and energy efficiency

This must be done using energy profiling, which breaks down the different ways that energy is used by a participant's activities and assets. It then analyses any variations in energy use to identify inefficiencies.

3. It must identify energy saving opportunities

Energy saving opportunities should be reasonably practicable and cost effective to implement. Recommendations should include the estimated costs and benefits of implementation.

Companies should assess cost effectiveness by comparing the reduction in units of energy or energy spend with the cost of implementing the measure.

Calculating the cost of implementing a measure should be based on an analysis of whether the investment will be economical over its entire life. This would include taking into account the cost of purchase, installation, maintenance and depreciation.

Naming and shaming

Organisations must notify the Environment Agency by a set deadline that they have complied with their ESOS obligations within each four-year period. There's a fixed penalty of up to £5,000 for non-compliance, and businesses can be charged an additional £40,000 in daily penalties for failure to notify compliance. The names of non-compliant companies will also be made public.

Alternatives to assessment

Having an ISO 50001 certified Energy Management System which covers all areas of energy consumption including transport can release an organisation from the obligations of ESOS by acting as an alternative route to compliance.

Where ISO compliance is restricted to part of the organisation's energy use, for example buildings, an ESOS assessment only needs to include the areas not already covered by the Energy Management System. Green Deal Assessments or Current Display Energy Certificates also offer routes to compliance that negates the need for full assessment.





The opportunities

For the air conditioning industry, the introduction of ESOS presents some interesting potential opportunities. On one hand, the requirement for large companies with significant property holdings to actively assess how much energy they are using and where they can improve, presents potential for upgrades and refurbishment.

Conversely, just how much pressure or willingness there is to act on these audits is yet to be seen. Opinion is currently divided about how much impact ESOS will have on the energy-saving strategies of businesses.

ESOS recommendations energy saving measures will include the estimated costs and benefits of implementing them. CIBSE has already stated that it expects its ESOS assessors to be persuasive in delivering reports on potential savings.

It is also worth remembering that companies who fail to act on energy-saving measures recommended as a result of the assessment process, will be wasting the money they spend on the assessment which could amount to several thousand pounds.

Also, as energy prices rise, the savings made in cutting energy waste, will also become more valuable over time.



For anyone involved in the maintenance and installation of building services equipment, now may be a good time to speak to end-users about the energy efficiency of their ventilation and cooling systems. It is a chance to highlight the efficiencies of modern equipment, and to point to the long-term savings in energy costs. Combined with new rules on F-Gas (see the Mitsubishi Electric Guide to F-Gas Regulation), this is the ideal time for building owners and managers to take a look at their air conditioning systems and consider the benefits of upgrading.

It is also a good opportunity to introduce the benefits of initiatives such as the Renewable Heat Incentive to business owners, and to improve their understanding of how best they can service their buildings.

The right direction

It is unlikely that the Government would ever make the ESOS recommendations for energy-saving legally enforceable on companies. But ESOS leaves business owners in no doubt as to where they are carrying needless costs, and how those issues can be addressed. A joined-up approach by lead assessors and manufacturers as to the best solutions for these firms will give this scheme the weight it needs to help contribute to the EU's 20 per cent target.

Sources:

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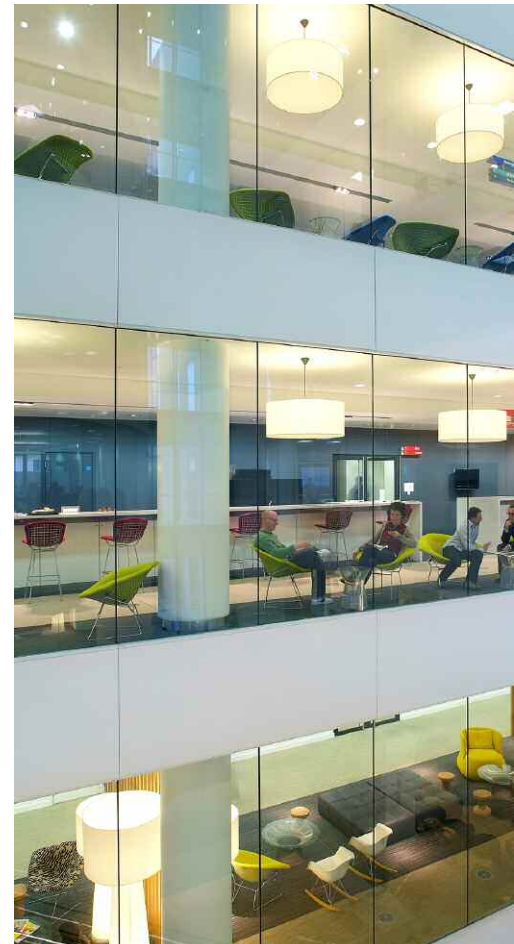
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To receive a CPD seminar on the Energy Savings Opportunity Scheme you can call your Mitsubishi Electric Regional sales office to arrange an in-house presentation of this information.

If you would like to receive invitations to future CPD events, please email livingenvironmentalsystems@meuk.mee.com

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Effective as of January 2015



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