



# Energy Savings Opportunity Scheme (ESOS)

## *Comply and add value*

fdf Webinar, May 2022

global **environmental** and **advisory** solutions



# TODAY'S PRESENTER

---



## **Graeme Precious, Technical Director, Carbon and Energy**

Graeme has over 15 years experience in the areas of energy management, carbon management and carbon reporting. He has worked with organisations across a range of sectors, ensuring compliance with ESOS and mandatory energy/carbon reporting schemes and developing carbon targets, and carbon management strategies.

# ESOS Phase 3 and added value

## ESOS Legislation Review

# Why : Energy Savings Opportunity Scheme (ESOS)

---

ESOS is written into UK legislation

---

The Government's guiding principles for implementing ESOS are to:

---

Ensure that ESOS provides high quality and well-targeted advice to large enterprises on cost-effective energy efficiency opportunities,

---

ESOS fits with and is complementary to other legislation (SECR, CCA, EU ETS, UK ETS);

---

The scheme runs on a 4-year cycle, we are therefore now in Phase 3

---

Other member states are required to introduce similar schemes but these differ depending on how the Directive has been interpreted.

---

<https://www.gov.uk/government/publications/comply-with-the-energy-savings-opportunity-scheme-esos/complying-with-the-energy-savings-opportunity-scheme-esos>

---

# ESOS: Who is affected?

Excludes public sector bodies but is compulsory for all large 'undertakings' operating in the UK.

A large 'undertaking' defined as any business that complies with the following:

- **250** or more employees\*
- Or...
  - an annual turnover exceeding **€50m** (~£40m), and
  - a balance sheet total exceeding **€43m** (~£38m)
- If one part of your operation is defined as a large undertaking in the UK then all companies/assets under the highest UK entity/first overseas entity are included
- status is determined by whether you have maintained the size for at least two consecutive accounting periods

\*For a UK registered undertaking, this includes all employees contracted to the undertaking either in the UK or abroad.  
For a non-UK registered undertaking with a UK registered establishment it is someone directly contracted to the undertaking who is subject to income tax in the UK

# What do you need to do to comply?

Assessment will include:

- Baseline 12-months of continuous data including 31<sup>st</sup> December 2022
- Audits (now - 5<sup>th</sup> December 2023), 12-months data, not more than 24-months before audit date
- Energy includes on site consumption, renewables, transport
  - Gas, electricity, propane, other fuels
  - On site generated or imported: solar, wind, CHP, biogas, biomass
  - HGV fleet, company cars, grey fleet, fuel for hire vehicles
- Energy saving opportunities identified through audits, ISO 50001 and extrapolation - and based on at least 90% of the total energy use
- Report compliance to the Environment Agency by the 5th December 2023
- Must be approved by a registered ESOS Lead Assessor
  - Experienced in your sector
- ...and signed off by a board level Director
- Maintain an Evidence Pack
  - Must be kept for the compliance period to which it relates and the two subsequent compliance periods.

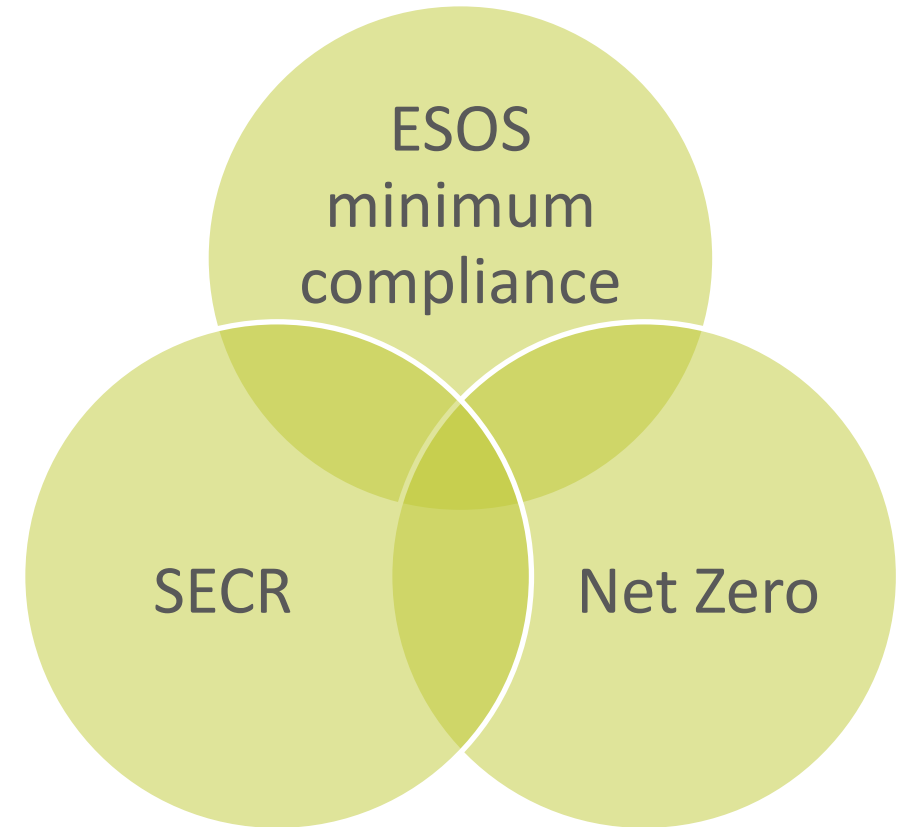


# Is Compliance Enough?

Complying alone may not meet company agendas  
Consider modifying or expanding scope of assessments

Include

- ✓ ESOS compliance minimum requirements
- ✓ Align with SECR data
- ✓ Include carbon opportunities and Net-Zero
- ✓ Internal agendas – water, waste emissions
- ✓ Align with international agendas



# Lead Assessor

## Select a Lead Assessor with relevant experience

- 11 registers with over 400 registered ESOS Lead Assessors
- Varied sector experience and background
- Should select Lead Assessor with relevant experience to your business
- All Lead Assessors should have experience/training in transport assessments
- You can select a new Lead Assessor

## Not all Lead Assessors perform audits

- Do not assume that site assessor will have same experience/background
- Check who will audit and their experience/background



# Typical Non-Compliances

Areas where remedial actions were identified	Others areas for improvement
Organisational structure	Location/accessibility of evidence pack
Total energy consumption (TEC) data records	Structure of evidence pack
TEC reference period	Qualification assessment record
Calculations to support estimates (TEC and audits)	Data collection and recording (especially transport)
Conversion factors	Benchmarking
Errors in TEC & Significant Energy Consumption (SEC)	Landlord/tenant supplies
ESOS energy audit data records	Energy Profiling favoured for audit analysis
Sampling approach	Life Cycle Cost analysis favoured over Simple Pay Back
ESOS energy audit analysis	Individual appraisal of energy savings opportunities
Identification of energy saving opportunities	Criteria for 'cost effective' energy savings opportunities
Cost benefit analysis	Ranking of energy saving opportunities
Extrapolation of energy savings to non visited sites	Maintaining Primary and Secondary Contact details
Alternative compliance route certification	
Lead Assessor sign off	
Board Director sign off	

# Penalties and Enforcement

Area of Failure	Fixed Penalty (cap)	Per day (max 80 days)
Notification given to EA	£5,000	£500
Maintaining records*	£5,000	
Undertake ESOS Assessment**	£50,000	£500
Comply with enforcement notice	£5,000	£500
False/Misleading statement	£50,000	

\* The Environment Agency may seek to recover costs associated with auditing activity to confirm your organisation has complied with ESOS

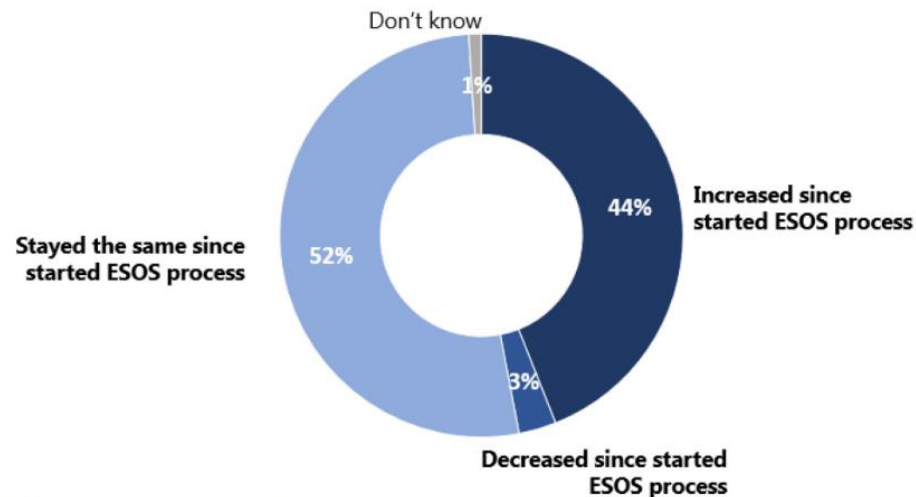
\*\* You will still be required to undertake an ESOS assessment

# ESOS Phase 3, SECR and added value

BEIS review/consultation of the value of ESOS

# Ref: Research on energy audits and reporting including ESOS Phase 2 report, Feb 2020

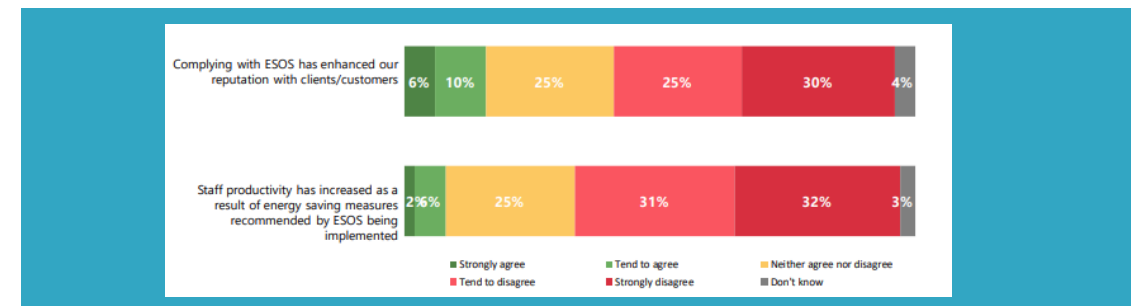
<https://www.gov.uk/government/publications/energy-audits-and-reporting-research-including-the-energy-savings-opportunity-scheme>



Source: ESOS complier survey, 2018, Base: 503 organisations

From review of ESOS Phase 2:

- **38%** of all energy efficiency measures implemented partly due to ESOS
- **32%** of transport fuel efficiency measures partly due to ESOS
- Impact is lower where energy management certification previously in place
- **52%** believe ESOS has had no impact



# ESOS to implementation

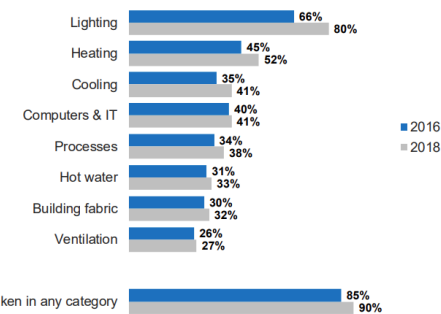
Ref: Research on energy audits and reporting including ESOS Phase 2 report, Feb 2020

**Table 1: Energy efficiency action by organisations, since ESOS**

Category of energy efficiency improvement	% organisations who made or planned energy efficiency improvement since ESOS	Of which: % individual measures implemented or planned within category attributed to ESOS35	
		Directly attributed to ESOS	At least partly attributed to ESOS
<b>Any category</b>	<b>90%</b>	<b>6%</b>	<b>38%</b>
Lighting	80%	8%	46%
Heating	52%	4%	35%
Cooling	41%	7%	36%
Computers & IT	41%	1%	20%
Processes	38%	9%	48%
Hot water	33%	3%	29%
Building fabric	32%	1%	34%
Ventilation	27%	0%	13%

Source: ESOS Complier survey, 2018, Base: 503 organisations

**Figure 2: Proportion of ESOS complier organisations reporting their organisation to have implemented or planned at least one energy efficiency measure since they started the ESOS process**



Source: ESOS complier survey, 2018, Base: 503 organisations; ESOS interim evaluation survey, 2016, Base: 821 complier or intend to comply organisations

A large proportion of organisations have implemented energy efficiency measures since ESOS started  
 20-50% of measures have been partially due to ESOS  
 Some opportunities through rigorous data collection and analysis and others due to audit outcomes

# Consultation on ESOS (closed 28 September 2021)

- A consultation has been undertaken into ESOS requirements. Changes may come into effect on current Phase (closed Sept 2021 - still awaiting response)
  - Quality improvement
    - standardise auditing methods and information required, site sampling, use of de minimis exemptions, and use of energy data
    - Review ESOS Lead Assessor qualification and management
  - Net Zero assessment
    - May need to include/declare Net Zero strategy
  - Public disclosure
    - May need to disclose high level findings, targets or action plans
  - Align with SECR
    - Common data set and timeline
  - Potentially extend to SMEs

Open consultation

## Strengthening the Energy Savings Opportunity Scheme (ESOS)

From: [Department for Business, Energy & Industrial Strategy](#)

Published 6 July 2021

### Summary

We're seeking views on proposed changes to improve and strengthen the Energy Savings Opportunity Scheme (ESOS).

This consultation closes at  
**11:45pm on 28 September 2021**

# ESOS Phase 3, SECR, Net Zero and added value

Value for SECR

# SECR – Streamlined Energy and Carbon Reporting

- SECR reporting is required every year, for inclusion within company annual report
  - Electricity and gas consumption
  - Transport fuel used in company cars, personal cars, hire cars, commercial fleet (ESOS also includes other fuels, renewables, imported heat etc)

<https://www.gov.uk/government/publications/academy-trust-financial-management-good-practice-guides/streamlined-energy-and-carbon-reporting#why-are-companies-being-asked-to-report-on-energy-use>





# SECR and ESOS

- The energy data set for SECR is not the same as for ESOS, but the SECR is a sub-set
  - Select ESOS baseline to coincide with SECR, use one data set for two systems
- SECR requires
  - “The report must include a narrative description of the principal measures taken to increase energy efficiency in the relevant year. It is recommended that the actions reported are those which have had a direct impact on energy efficiency and, where possible, the resulting energy saving from actions reported are also stated. If no measures have been taken, then this fact should be reported”<sup>1</sup>.
- Use ESOS
  - Combine data sets, so that only collect data once
  - To provide audited pipeline for energy efficiency measures for implementation

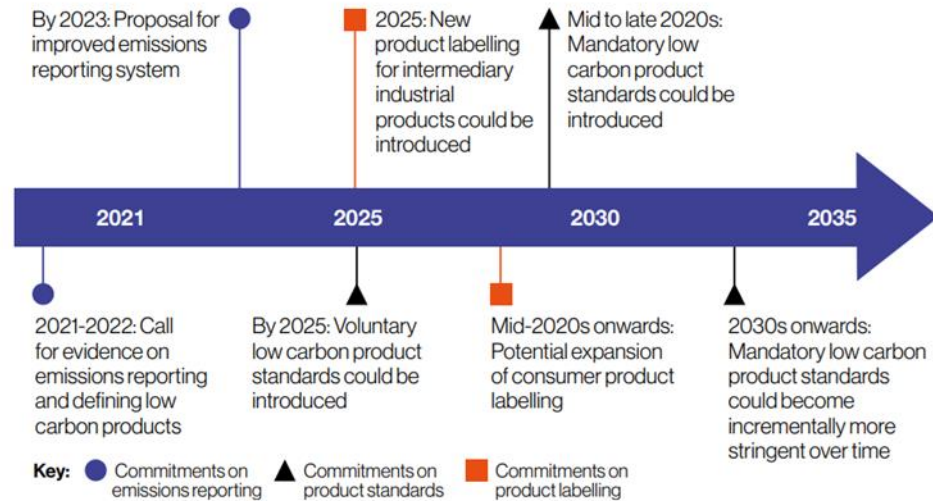


# ESOS Phase 3, SECR, Net Zero and added value

Value for Net Zero

# Net Zero

- Target for UK to be Net Zero carbon by 2050
- Potentially increased regulation, energy tax, legislation
- UK Gov requirement for tenders PPN/0621 (must have a Net Zero 2050 target in place)
- From consultation may become compulsory aspect of ESOS

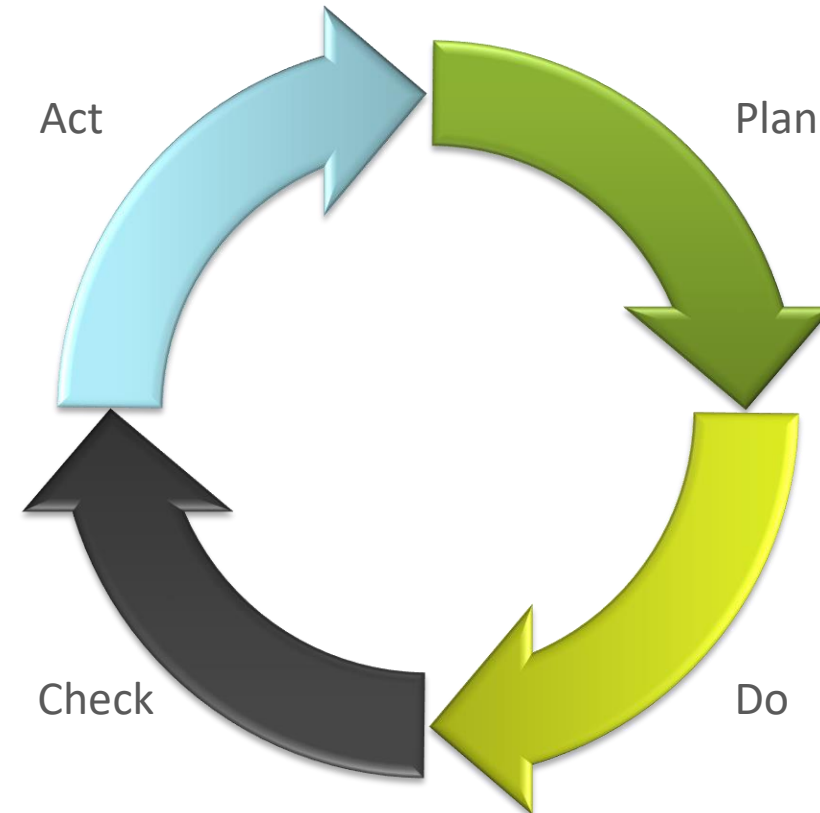


# ESOS Phase 3, SECR and added value

Value from ISO 50001

# ISO 50001

- Management system certification for energy efficiency based on continuous improvement (PDCA cycle)
- Requires continuous improvement to maintain certification
- Involves planned scheduled or continuous energy efficiency improvement
- Can use internal resources for energy assessment and management, but cost associated with maintaining certification



# ISO 50001

## **Advantages:**

- Part of an overall energy management system for effective management of energy consumption
- ISO 50001 could be employed by a multinational company across its operations. This is likely to mean that, for operations qualifying for audits under other European mandatory auditing schemes, the requirements would be met through the energy management system
- Can be aligned with other existing management systems e.g. ISO14001
- Concentrates on achieving energy efficiency improvements through implementation and sustaining savings
- Any part of the business covered by ISO 50001 does not need reassessing under ESOS

## **Disadvantage:**

- Additional effort, above minimum ESOS requirements, may be required to maintain a certified ISO 50001 energy management system
- Requires external assessment, verification and certification
  - Certification is valid for three years and is maintained through a programme of annual surveillance audits and a three yearly recertification audit

# ESOS Phase 3, Best Practice

# Best Practices

- Agree scope and requirements with auditors and Lead Assessor
  - Scope does not need to be simply minimum for compliance
  - Engage internal stakeholders before agreeing strategy
  - Structure ESOS to achieve compliance but also to address company priorities
  - Align ESOS with other schemes: SECR, Net Zero
  - Consider combining ESOS with carbon, water, resource efficiency (single assessment to meet multiple agendas)
- Arrange timing to suit business
  - Have now until 5<sup>th</sup> December 2023 to achieve compliance
  - Spread the load, arrange audits to fit in with site requirements
  - Align audit output with annual budgeting or with external funding requirements e.g.: IETF (Industrial Energy Transformation Fund)



# Best Practices

- Consider ESOS as an opportunity for cost saving and added value, not just box ticking
  - Strategic improvement plan for environmental opportunities.
  - Make use of suppliers to refine opportunities
  - Exploit Annual Investment Allowance (AIA) and the Energy Technology List (ETL) (<https://www.gov.uk/guidance/energy-technology-list> )
- Build internal capacity and capability: knowledge transfer, training, coaching
- Determine what is added value.
- Continuous maintenance of energy analysis, improvement register and implementation programme
- Verification of achieved savings
- Continuous automatic metering and analysis
- Plan ahead: 18-month window for audits

# Thankyou

---



Graeme Precious, [gprecious@slrconsulting.com](mailto:gprecious@slrconsulting.com)