Department for
Business, Energy
& Industrial Strategy

Strengthening the Energy Savings Opportunity Scheme (ESOS)

Consultation on options

Closing date: 28 September 2021

July 2021

Any enquiries regarding this publication should be sent to us at:
businessenergyuse@beis.gov.uk

Executive Summary

This consultation seeks views on the government's proposal to improve and strengthen the Energy Savings Opportunity Scheme[1] (ESOS) and increase the uptake of energy efficiency measures by participating businesses.

ESOS is one of the major existing policies that seeks to improve business energy efficiency through providing participating businesses with trusted, high-quality information about potential energy savings they can make. Acting on these energy efficiency recommendations provides participating businesses with the opportunity to reduce energy consumption and costs, as well as contribute to the UK's net zero commitment through reducing emissions.

The specific aims of improving the scheme are:

- To increase the number of ESOS participants that take action to reduce energy use by raising the quality of their ESOS audit;
- To increase the carbon and cost savings from ESOS by increasing the number and scope of ESOS recommendations taken up by participants;
- To ensure that ESOS recommendations are consistent with the UK's net zero commitments.

The detailed proposals for strengthening ESOS are laid out in Chapters 1-6 of this consultation.

Chapter 1 looks at how the standard and quality of ESOS audits could be improved by strengthening the requirements for audits and making them more standardised. This includes proposals to:

- Require more standardisation of information provided in reports and auditing methods used;
- Tighten requirements around site sampling, use of de minimis exemptions and use of energy data;
- Include metrics that allow participants to better judge their energy performance;
- Include more information about the performance of participants in relation to energy management and behaviour change, and how this can be improved.

Chapter 2 addresses further ways that the quality of ESOS reports could be improved through:

- Ensuring that all assessors are appropriately trained and monitored so that they continue to meet the required standards;
- Ensuring that organisations can identify when specialist assessor advice is needed and are able to find assessors with that expertise;

[1] https://www.gov.uk/guidance/energy-savings-opportunity-scheme-esos

- Addressing issues arising from the 4-yearly cycle of ESOS in producing peaks and troughs in the ESOS assessor market;
- Considering how ESOS audits could be more effective in encouraging the uptake of recommendations.

Chapter 3 seeks views on how ESOS can address the net zero challenge through including an assessment of participating businesses' greenhouse gas emissions in addition to their energy use, along with the potential for decarbonisation.

Chapter 4 considers how public disclosure of ESOS data could increase the uptake of ESOS recommendations by participating businesses and make reporting more transparent. The chapter also addresses how public disclosure would work with Streamlined Energy and Carbon Reporting (SECR).

Chapter 5 seeks views on three proposed options for extending the scheme to medium-sized enterprises (MEs), which would extend the benefits of the scheme to a greater number of UK businesses. Specifically, this chapter considers the merits of extending the scheme to:

- All MEs
- MEs whose energy consumption falls above a specific energy threshold
- All industrial MEs

Chapter 6 looks at the scope for encouraging uptake of ESOS recommendations through various means, including the possibility of mandating action, to ensure that participating businesses take up their energy efficiency recommendations.

Chapters 1-4 consider the concrete proposals for Phase 3 of ESOS (compliance year 2023) on which we are asking for comment in advance of legislating as soon as we are able, subject to the views of consultees. Chapters 5-6 set out potential options that, subject to responses from this consultation, could be implemented in Phase 4 of ESOS (compliance year 2027). We welcome views on all proposals laid out in the consultation.

Contents

General information

Why we are consulting

This consultation builds on the 2020 Post-Implementation Review of the scheme[2] and seeks views on proposed measures to strengthen the Energy Savings Opportunity Scheme, improve the uptake of energy efficiency measures, and increase the benefits for participating businesses.

Consultation details

Issued: 06 July 2021

Respond by: 28 September 2021

Please do not send responses by post to the department during the coronavirus pandemic (COVID-19), as we will not be able to access them.

Enquiries to:

Tel: 020 7215 5000
Email: businessenergyuse@beis.gov.uk

Consultation reference: Strengthening the Energy Savings Opportunity Scheme (ESOS) - Consultation on Options

Audiences:

UK large businesses, SMEs that are part of a corporate group with a large enterprise, local authorities, landlords, tenants, and the supply chain (energy efficiency installers, ESOS lead assessors etc.), professional bodies and compliance bodies, anyone affected by or concerned by the proposed improvements to the Energy Savings Opportunity Scheme and those representing the interests of the sector.

Territorial extent:

UK wide.

ESOS operates on a UK-wide basis with agreement with the devolved administrations. Energy efficiency is a devolved matter in Northern Ireland. In Scotland and Wales, energy conservation is a reserved matter, except for the encouragement of energy efficiency (other than by prohibition or regulation) which is devolved.

[2] https://www.legislation.gov.uk/uksi/2014/1643/pdfs/uksiod_20141643_en.pdf

How to respond

Respond online at: beisgovuk.citizenspace.com/energy-efficiency/strengthening-energy-savings-opportunity-scheme

or

Email to: businessenergyuse@beis.gov.uk

When responding, please state whether you are responding as an individual or representing the views of an organisation.

Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome.

Confidentiality and data protection

Information you provide in response to this consultation, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004).

If you want the information that you provide to be treated as confidential, please tell us, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable data protection laws. See our privacy policy.

We will summarise all responses and publish this summary on GOV.UK. The summary will include a list of names of organisations that responded, but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the government's consultation principles.

If you have any complaints about the way this consultation has been conducted, please email: beis.bru@beis.gov.uk.

Introduction

In June 2019 the UK government became the first major economy to legislate for net zero greenhouse gas emissions. The target requires the UK to bring all greenhouse gas emissions to net zero by 2050, compared to the previous target of at least an 80% reduction from 1990 levels[3]. In addition to our net zero target and as part of the UK's Nationally Determined Contribution (NDC) to the United Nations process, the UK has committed to an ambitious target. The ambition set out in the 2017 Clean Growth Strategy to reduce business energy use by 20% by 2030 is an important contribution to this pledge.

In 2020 the coronavirus pandemic created a challenging environment for business and wider society alike. As the government continues its efforts to tackle the pandemic and help people's lives return to normal in a post-Covid world, there is an opportunity to build back better to create a clean, green recovery that supports green jobs, reduces emissions, and cuts costs for businesses. Incentivising investment in energy efficiency and low carbon technologies can help the UK to achieve a green recovery at the same time as meeting the UK's net zero obligation.

The publication of the Prime Minister's Ten Point Plan for a Green Industrial Revolution[4] in November 2020 set out an ambitious vision for how the UK can reach its net zero targets. With 18%[5] of UK greenhouse gas emissions coming from business and industry in 2019, significant steps will need to be taken by the private sector to reduce greenhouse gas emissions to meet these targets. Many forward-thinking businesses are already taking action and putting into place plans and targets that will prepare them for the challenge of moving to a net zero world[6], but there is a wide discrepancy across the sector and the scale of the challenge requires everyone to play their part. Those businesses that do not take action to address the challenge of net zero run the risk of being left behind and becoming uncompetitive as net zero becomes part of the accepted 'social licence to operate'[7] and net zero considerations are increasingly factored into investment decisions.

Improving energy efficiency is one of the most cost-effective mechanisms for businesses to reduce their carbon emissions, whilst also reducing their energy bills[8]. There are also many other business benefits to improving energy efficiency, such as improved working conditions for staff, improved customer experience, more efficient processes, reduced maintenance costs, and improved business image. Energy efficiency is also a key measure for the UK in meeting

[3] The Devolved Administrations are able to set their own climate change targets as part of the UK's long-term emission reduction goal. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, which amends the Climate Change (Scotland) Act 2009, sets targets to reduce Scotland's emissions of all greenhouse gases to net-zero by 2045. The Environment (Wales) Act 2016 sets a legal target of reducing greenhouse gas emissions by a minimum of 80% by 2050, and the Welsh Government has laid regulations to formally commit to net zero emissions by 2050. Northern Ireland contributes towards the UK climate change targets and carbon budgets set out in the Climate Change Act 2008.

[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936567/10_POINT_PLAN_BOOKLET.pdf

[5] 2019 UK greenhouse gas emissions, provisional figures (2020) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/875485/2019_UK_greenhouse_gas_emissions_provisional_figures_statistical_release.pdf

[6] https://racetozero.unfccc.int/15c-business-playbook/

[7] https://www.investopedia.com/terms/s/social-license-slo.asp

[8] Energy White Paper (2020) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/945899/201216_BEIS_EWP_Command_Paper_Accessible.pdf

interim carbon budget targets, as unlike some other technologies that will be needed to drive decarbonisation in the future, energy efficiency measures are already well-established and proven methods that are cost-effective for businesses to deploy.

However, there are still barriers to wider uptake of energy efficiency measures in business and industry. The Energy Savings Opportunity Scheme (ESOS) was introduced in 2014 to assist businesses in overcoming information barriers that prevent businesses from investing in energy efficiency measures by requiring all large businesses to carry out an energy audit every 4 years and having this signed off by the Board.

ESOS has resulted in estimated annual efficiency energy savings of 1.65TWh from buildings, 1.51TWh savings for industrial processes, and 0.52TWh of fuel efficiency savings across the ESOS population, and associated energy bill and emissions savings[9] but there is still scope to go further and a recent evaluation of the scheme, the Post-Implementation Review (PIR)[10], identified various opportunities for improvements to the scheme. ESOS also needs to reflect the changes to the policy landscape since it was first introduced, such as net zero targets and new policy initiatives.

As ESOS is a scheme which was originally designed in part to implement an EU directive, there may also be opportunities that arise as a result of the UK's exit from the EU which enable more flexibility in tailoring ESOS to UK needs and going further than the original requirements in some regards. We are therefore consulting on strengthening ESOS in order to increase the carbon savings and associated cost savings that can be made from participating businesses, as well as to ensure that the scheme leads to increased energy efficiency in business which will assist the UK on its path to net zero. The aims of the measures outlined in this consultation are:

- To increase the number of ESOS participants that take action to reduce energy use by raising the quality of their ESOS audit.
- To increase the carbon and cost savings from ESOS by increasing the number and scope of ESOS recommendations taken up by participants.
- To ensure that the ESOS recommendations are consistent with the UK's net zero commitments.

The document outlines the rationale for making various changes to ESOS, the evidence on which this rationale is based, and the measures proposed to address the challenges identified.

The Impact Assessment for this consultation shows that between 1.0MtCO2e and 5.1MtCO2e are likely possible from the proposals set out as core options over Carbon Budget 5, with a central Net Present Value estimate of £1.0bn. The proposed measures could yield energy use savings of between 19TWh and 93TWh in the period from 2023 to 2037, over which the policy has been appraised. Further detail can be found in the Impact Assessment which will be published alongside the consultation.

[9] https://www.legislation.gov.uk/uksi/2014/1643/pdfs/uksiod_20141643_en.pdf
[10] https://www.gov.uk/government/publications/energy-audits-and-reporting-research-including-the-energy-savings-opportunity-scheme

Strengthening ESOS

ESOS is one of the major existing policies that addresses business energy efficiency through providing participating businesses with trusted, high-quality information about potential energy savings they can make, which will both save the organisation money and reduce UK business energy use and associated carbon emissions.

The scheme was developed to address the potential for energy efficiency savings in large businesses, across all three end uses of buildings, transport and industrial processes and in particular to address the following barriers:

- Lack of awareness of potential for energy efficiency savings.
- Lack of detailed information on energy efficiency measures that would be relevant for their organisation.
- Lack of commitment to energy efficiency.

ESOS assists businesses in overcoming these barriers through requiring large businesses to carry out a 4-yearly audit which provides cost-effective recommendations that are tailored to the organisation and are required to be signed off by a board member.

The original policy objectives of the ESOS scheme were:

- To provide large enterprises with organisation-specific information about how they could make energy savings.
- To stimulate the take-up of cost-effective energy efficiency measures by businesses.

In February 2020, the ESOS Post-Implementation Review (PIR)[11] was published, alongside the external evaluations on which the evidence from the review was primarily based,[12] highlighting several areas where ESOS could be strengthened and improved.

The PIR identified that ESOS had been largely successful in meeting its original policy objectives. The annual energy savings that have resulted from ESOS were found to be broadly in line with the overall saving of 3.0TWh per year estimated in the original Impact Assessment and the costs of compliance were also broadly as anticipated[13]. The introduction of ESOS led to many organisations carrying out energy audits for the first time and encouraged increased collection of data and awareness of energy costs. Audits were useful both for identifying new opportunities and validating already identified measures. The evaluation found that businesses

[11] https://www.legislation.gov.uk/uksi/2014/1643/pdfs/uksiod_20141643_en.pdf

[12] The first evaluation was an interim process and early impact evaluation of ESOS which took place from 2015 to 2017. The aim of this project was to design and collect baseline evidence for a future longer term impact evaluation, and to provide early input on the ESOS process. This fed into the second piece of work, a theory-based impact evaluation of energy audits and reporting, with a specific emphasis on ESOS. This evaluation was divided into various work strands and delivered across two phases. Phase 1 took place from 2017-2018 and Phase 2 from 2018-2019.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/867853/research-on-energy-audits-and-reporting-including-ESOS-phase-1-report.pdf
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/887138/energy-audits-reporting-research-esos-phase-2-main-report.pdf

[13] The evaluation found that businesses in scope of ESOS had reduced their annual energy consumption by around 3.5TWh between 2015-2019, around 0.5TWh larger than the IA had forecast.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/323116/ESOS_Impact_Assessment_FINAL.pdf

were unlikely to carry out an energy audit unless mandated to do so which reaffirms the need for ESOS for incentivising and improving energy efficiency in businesses.

However, the evaluation also showed that there are further improvements that can be made. Whilst 90% of organisations in the evaluation reported having planned or implemented an energy efficiency measure, only 6% of measures were directly attributed to ESOS, with 38% being partially attributed. The research also showed that participants will not always act upon energy savings opportunities identified through their audits, and many perceived ESOS as purely a compliance activity. Where this was the case, such organisations tended to select the external assessor with the lowest quote rather than the assessor best qualified to audit their operations.

Whilst ESOS has been effective in tackling the barriers of awareness and information, there remain barriers to organisations taking up energy efficiency measures, including economic barriers, internal organisational barriers and behavioural barriers.

Possible opportunities identified in the PIR and evaluation to address some of these barriers to further uptake of ESOS measures were:

- Reframing the scheme's requirements and improving quality of audits to encourage more take up of measures.
- Addressing the cyclical nature of four-yearly audit cycles to improve levels of sustained activity between audits.
- Delivering on potential synergies with other schemes.
- Requiring public disclosure of ESOS recommendations and/or action.
- Changing the scope of organisations required to carry out energy audits.
- Mandating implementation of ESOS recommendations.

These recommendations also align with a July 2019 report from the Business, Energy and Industrial Strategy (BEIS) Select Committee[14] which found that there was scope for ESOS to further encourage business investment in energy efficiency and recommended that the Government should require ESOS audits to be made publicly available and that organisations should be mandated to demonstrate that they had acted on the energy saving opportunities identified in their ESOS audit. BEIS analysis of a sample of ESOS Phase 2 reports confirmed a number of the ESOS evaluations' findings in relation to audit report quality and content, and discussions with stakeholders have also identified potential further improvements that could be made to the scheme.

Wider policy context and synergies with other schemes

Since the introduction of ESOS via the Energy Savings Opportunity Scheme Regulations 2014 (ESOS Regulations), as amended, the range of policies aimed at tackling energy efficiency in businesses has increased. In particular, we have introduced a range of policies that aim to regulate and provide information on energy use at a building level – as opposed to ESOS which is targeted at a business level. Note that the policies described here, other than ESOS, may not apply UK-wide.

[14] https://publications.parliament.uk/pa/cm201919/cmselect/cmbeis/124/12403.htm

Since April 2018 landlords in England and Wales have been required to ensure their privately rented non-domestic properties meet an EPC rating of E or above for all new tenancies under the Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015[15] (referred to in this document as PRS Regulations), and this will be extended to existing tenancies in April 2023[16]. As announced in the Energy White Paper[17], we will be further increasing minimum building standards, requiring all rented non-domestic properties to meet an EPC rating of B or above by 2030[18], which will capture 85% of the non-domestic privately rented building stock. Both policies are based around the Energy Performance Certificate (EPC), which is a standardised assessment of the energy efficiency of a building that provides a rating from A+ to G and recommendations for improvement and is required when a building is constructed, sold or let. In 2020 we published an action plan on strengthening the EPC framework and we will ensure that any proposed changes to ESOS are consistent with commitments made in the EPC action plan[19].

Where buildings are covered by both PRS Regulations and ESOS Regulations, both the obligated party and the requirement are different, though there may be some overlaps. PRS Regulations place an obligation on the landlord of a leased property, whereas ESOS places obligations on the property occupier. PRS Regulations require a landlord to upgrade the fabric and/or Heating, Ventilation and Air Conditioning (HVAC) system of the property to reach a given standard, and these are based on a set list of recommendations which are largely generated from EPC methodology, based on assessor input. ESOS recommendations are tailored to the building based on a detailed site audit and can include a wider set of options than upgrading building fabric and HVAC systems, but there is currently no requirement to carry out the recommendations. In Chapter 6 we investigate the possibility of mandating ESOS participants to carry out recommendations, but any future requirement would need to recognise the limitations on tenants placed by lease terms and consider whether further work would be needed to align ESOS and PRS requirements. Further discussion of how PRS and ESOS policies overlap is considered in Chapter 2 around information on next steps within the ESOS report.

We also recently published a consultation in March 2021 on introducing a performance-based policy framework which would require commercial buildings over 1000m2 to obtain a rating based on metered energy use and publicly disclose it[20]. This rating will be benchmarked against similar buildings to enable comparison and greater public scrutiny. It is proposed to introduce the scheme for offices first, and then other sectors. The scheme has been designed to complement ESOS – the framework would require businesses to get a rating which provides information on how a building is performing, while the organisation's ESOS report can provide recommendations for reducing energy use, which if carried out would have the effect of improving the rating. Throughout this consultation we have identified opportunities for further synergies between ESOS and the proposed rating scheme, specifically in Chapter 1 in relation

[15] https://www.legislation.gov.uk/ukdsi/2015/9780111128350/contents https://www.gov.uk/government/consultations/non-domestic-private-rented-sector-minimum-energy-efficiency-standards-epc-b-implementation

[16] https://www.gov.uk/government/publications/non-domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance

[17] Energy white paper: Powering our net zero future. available at https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future

[18] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/970192/non-domestic-prs-mees-epc-b-future-trajectory-implementation.pdf

[19] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/922660/EPC_Action_Plan.pdf

[20] https://www.gov.uk/government/consultations/introducing-a-performance-based-policy-framework-in-large-commercial-and-industrial-buildings. The policy will cover England and Wales, but Scotland and Northern Ireland may consider introducing similar schemes in future.

to use of ratings within the ESOS report, in Chapter 3 in relation to net zero trajectories, in Chapter 4 in relation to a common data framework and in Chapter 6 in relation to alternatives to mandating action through ESOS.

In 2019 we introduced SECR, which like ESOS is targeted at business level, rather than individual sites. SECR requires large or quoted UK businesses to report annually on their energy use and carbon emissions within their company reporting and the reporting requirement applies to reports for financial years starting on or after 1 April 2019[21]. The synergies and overlaps between ESOS and SECR are discussed in detail in Chapter 4.

Various other policies covering buildings, transport, industrial processes and business energy may also be relevant to ESOS and a fuller list of relevant policies and incentives, both UK-wide and covering specific regions of the UK, can be found in Annex A.

The introduction of a UK net zero target by 2050 has also changed the wider context in which ESOS is viewed. ESOS was originally designed to predominantly address energy cost savings, and as such is not designed to maximise carbon reductions as part of contributing to the net zero target, though there is substantial overlap between the two goals of energy cost reduction and carbon emissions reduction. We therefore recognise that ESOS needs to be reconsidered in light of net zero commitments, and this is addressed in Chapter 3.

All of these drivers point to a need for a review of ESOS that looks at how the scheme can be strengthened, both in the immediate term and looking further ahead.

Implementing the changes to ESOS

ESOS is designed around 4-yearly compliance phases, meaning that the timing of any changes to ESOS requirements needs to be considered. The phases of ESOS are organised so that the penultimate year of a phase determines whether an organisation is required to comply with ESOS. Organisations which meet the ESOS qualification requirements on the qualification date (31 December 2014 and every 4 years thereafter) are then required to notify compliance with the scheme by 5 December of the following year.

The compliance phases for ESOS as set out in regulations are:

Phase	**Compliance period**	**Compliance deadline**
Phase 1	2014 (organisations were allowed to include results from existing audits from the previous 4 years)	5 December 2015
Phase 2	2015-2019	5 December 2019
Phase 3	2019-2023	5 December 2023
Phase 4	2023-2027	5 December 2027

[21] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850130/Env-reporting-guidance_inc_SECR_31March.pdf

Most of the changes proposed to the ESOS Regulations are being considered for Phase 3, subject to the outcome of this consultation. This could result in the need for participants to make changes to reporting from their Phase 3 ESOS report onwards. Some options may take longer to implement or to have the necessary time for parliamentary legislation and would potentially be in place for the Phase 4 ESOS report and any future phases.

The majority of participants currently carry out the majority of their ESOS compliance activities in the final year of a phase, and therefore we consider making changes to ESOS part way through Phase 3 that affect Phase 3 reporting should not be problematic if participants are given sufficient notice of changes. However, we recognise that some participants may have already begun compliance activities and that changes to the requirements before the end of Phase 3 may prove more problematic. We are concerned not to penalise these early actors, as in general early compliance is to be encouraged. We are therefore asking for views on how best to deal with site audits that have already been carried out under current guidance to avoid disadvantaging participants who have taken early action to comply whilst ensuring that requirements on ESOS participants overall are fair and consistent.

Consultation questions

1. **What is a fair and proportionate way of dealing with the small number of ESOS site audits which may have already been carried out under the existing audit requirements if we make subsequent changes to the Phase 3 compliance requirements?**

Chapter 1: Setting stronger standards for ESOS

In order to increase the number of organisations which take up ESOS recommendations and also increase the total number of recommendations being taken up by ESOS participants, we need to ensure that ESOS reports are both providing appropriate recommendations and encouraging organisations to take up these recommendations. This relies on ESOS audits being of a consistently high quality, but there is evidence to suggest that the quality of reports is not sufficiently high on a consistent basis. This chapter sets out proposals to strengthen the requirements for the ESOS report which will improve the consistency of ESOS reporting and increase standards.

The evaluation of ESOS which was carried out between 2017 and 2018 identified three main factors which determine the effectiveness of energy audits at delivering energy efficiency savings:

- A high-quality audit, including valid data which is up to date and relevant to the organisation.
- A skilled auditor with relevant expertise (in the right sector, organisation type).
- Strong senior management engagement with the auditing process.

Whilst the last of these may be outside the influence of ESOS as a policy, the evaluation report notes that this can be encouraged by the first two conditions – the quality of the audit and the auditor.

Despite the importance of audit quality in delivering savings, the evaluation report also identified that the quality of ESOS audits was not consistent in Phase 1 of ESOS. In 2020, an assessment of Phase 2 ESOS reports by BEIS staff similarly identified a lack of consistency and varying quality in analysis methods, site sampling methods, report quality and types of recommendations made. The Environment Agency is the UK scheme administrator and the compliance body in England with responsibility for enforcement and compliance activities related to ESOS, including compliance audits (in the devolved regions the compliance body is the relevant regional environmental agency). Its audits of Phase 1 ESOS reports also identified that 65% of reports required remedial action, even where the organisation was deemed compliant overall. This is despite the provision of compliance guidance[22] and lead assessors being made aware of the key areas for which participants should comply[23].

The ESOS evaluation report also provides some insight into the reasons for lack of consistency in audit quality. Surveys of participants found that the majority of ESOS participants viewed ESOS as predominantly a compliance activity rather than as an energy saving opportunity. As a result, many participants commissioned ESOS audits based on convenience and low cost, which led to a demand for low-cost audits, driving down overall audit quality and reducing the overall effectiveness of the auditing process. This was the case both for organisations which saw energy efficiency as a low organisational priority and for those that considered they had already identified the relevant opportunities.

[22] https://www.gov.uk/government/publications/comply-with-the-energy-savings-opportunity-scheme-esos
[23] https://www.sepa.org.uk/media/463087/esos_assessment_standards_table.pdf

One of the factors that may have led to this compliance-based approach is the light-touch nature of ESOS requirements. The current ESOS Regulations leave the content of the ESOS audit and the ESOS report largely up to ESOS participants and their ESOS lead assessors, within some general guidelines and minimum criteria of what should be included. The scheme was designed this way to allow organisations the flexibility to commission a tailored audit in a way that was most beneficial to them, and allowed synergies with other schemes (e.g. Display Energy Certificates) while minimising additional regulation on top of existing reporting schemes, particularly in the first phase when organisations were new to the scheme and did not have a long time to prepare for the first compliance year. There was also a concern not to go significantly beyond the minimum obligations of Article 8 of the EU Energy Efficiency Directive, 2012/27/EU, which ESOS was designed to implement.

However, given the need to increase action on energy efficiency in light of net zero targets, the greater maturity of the ESOS scheme and the opportunities provided by the UK's exit from the EU, this light touch approach is now less appropriate. The limited number of specific requirements within ESOS, combined with guidance that is primarily focused on scheme compliance rather than encouraging participants to carry out energy savings measures, has likely contributed to the perception of ESOS as a compliance exercise rather than a useful activity for participants. Where participants have then commissioned a low-cost audit, the consequent reduced usefulness of the report may have reinforced the perception that ESOS is a 'tick-box exercise' and reduced these participants' engagement with the scheme, compared to those organisations which invested in a good quality audit.

Setting firmer and stronger requirements for the content of ESOS reports will reduce the current discrepancy in content and quality of ESOS reports, resulting in more consistency between scheme participants. It will also reduce ambiguity about what is required to be compliant with the scheme and better enable participants to be sure that ESOS assessors are providing a good quality assessment.

We therefore propose to strengthen the requirements of the ESOS audit and report, to ensure that all ESOS audits meet higher minimum standards such that they provide a good range of useful recommendations to participants. Other sections of this consultation set out more ambitious proposals to increase take up of ESOS recommendations, but for these to be successful, ESOS reports must be of a consistently high standard and identify the most appropriate energy saving recommendations.

This chapter sets out the changes we intend to make to the content of the ESOS report, with the aim of ensuring that all ESOS audits meet the same quality standards, ensuring that the most appropriate data, site audit processes and analysis methods are used for all ESOS reports, and giving participants better information to judge how well they are performing. Further approaches to improving the quality and consistency of ESOS reports are addressed in Chapter 2.

Current ESOS audit requirements

Organisations in scope (primarily large undertakings) are required to carry out an energy audit that will be signed off by a qualified ESOS lead assessor or use one of the other three ESOS compliance routes (ISO 50001, Display Energy Certificates and Green Deal Assessment for business[24]) to cover all of their energy.

[24] For an explanation of alternative routes please see page 26

ESOS does not mandate specific energy auditing methodologies that must be used. Advice on some potential methodologies that can be used such as ISO 50002 or BS EN 16247 is included in the appendix to the ESOS guidance, but these are not required.

The energy audit must, so far as is reasonably practicable, include all the following steps:

1. Measure the organisation's Total Energy Consumption and identify areas of Significant Energy Consumption

This step is required for all compliance routes (except if ISO 50001 covers all of the organisation's energy use) and requires an organisation to measure their Total Energy Consumption across buildings, transport and industrial processes where the organisation pays for the energy use.

The organisation is then permitted to exclude some energy supplies from reporting within the ESOS scheme, up to a maximum of 10% of the total energy consumption. This 'de minimis' exclusion was introduced to minimise the administrative burden of reporting on small supplies where the reporting burden may not be proportionate to the energy saving potential. Up to 10% of energy consumption can be excluded, and this can be on any basis, such as by group, by site, by fuel, by activity or a combination of these. The remaining minimum 90% of energy consumption is termed the organisation's Significant Energy Consumption and the energy audit carried out by the organisation must cover this significant energy consumption.

2. Analyse the organisation's energy consumption and energy efficiency

Organisations must, where practicable, use energy consumption profiling in their analysis of energy use for the ESOS energy audit. A method for doing this is not set. If an organisation does not include an analysis based on energy consumption profiles for an ESOS energy audit, this needs to be recorded in their ESOS Evidence Pack[25].

Auditors must carry out site visits as part of the ESOS energy audit, but do not have to visit every site where large undertakings hold more than one site. A site sampling method should be used if not all sites are visited, but there is no set sampling method required for ESOS. The site sampling method used must be explained in the Evidence Pack.

3. Identify any way in which the organisation's energy efficiency can be improved and recommend practical and cost-effective energy saving measures for the organisation

The ESOS energy audit must include recommendations for cost-effective energy efficiency improvements in all aspects of the organisation's energy consumption (including efficiencies in generation, if they self-generate, and the use of the energy), if there are any. It is not specified what is meant by an 'aspect' of energy consumption, so it is left fairly broad what types of recommendations should be made.

4. Identify the estimated costs and benefits of any energy saving opportunity

[25]The ESOS Evidence Pack contains the record of how an organisation has complied with its ESOS obligations. https://www.legislation.gov.uk/uksi/2014/1643/regulation/28/made

The ESOS energy audit should calculate how much the organisation could save from improved efficiency. Where practicable, an ESOS energy audit should use life-cycle cost analysis (LCCA) instead of simple payback period (SPP) for cost-benefit analyses, but it is not set out what is meant by reasonably practicable.

The requirements for participants are set out in official Environment Agency guidance[26]. In addition to the official guidance, the Environment Agency has also made available a two-page guide on energy audit good practice[27] and a guide to being audited by the Environment Agency for compliance[28] which also sets out some good practice guidelines. However, following these guidelines is not required for ESOS compliance.

Standardisation of reporting

Although there are benefits in making reporting more standardised, we do not consider that it would be reasonable or proportionate to require a reporting template for the full ESOS assessment, due to the range of different types and sizes of organisation complying with ESOS, and the fact that the ability to tailor the audit to an organisation's requirements is one of the scheme's strengths. However, we consider that some standardised details should be captured in all ESOS reports, and that therefore it may be appropriate to require a template for these aspects. These details include:

- Organisational details including corporate group structure, highest UK parent (and overseas where appropriate), Companies House registration numbers for the group and Standard Industrial Classification (SIC) codes.
- Reason for qualification in ESOS – based on employee numbers, turnover, balance sheet or inclusion in corporate group.
- Route(s) to ESOS compliance used.
- ESOS lead assessor details and details of all other personnel involved in conducting site visits and/or completing the report.
- Total Energy Consumption, Significant Energy Consumption and de minimis exclusions.
- If ISO 50001 certification is used, an explanation of how certification scope matches (or otherwise) the scope required by the Significant Energy Consumption.
- Use of 12 months energy data, estimates and energy profiling for ESOS compliance.
- Number of sites, site sampling method used and rationale for this method.
- Brief summary of the main audit findings (e.g. total savings identified).
- Confirmation that board member signing off is an Executive Director for the highest UK parent, as registered with Companies House.

[26] https://www.gov.uk/government/publications/comply-with-the-energy-savings-opportunity-scheme-esos/complying-with-the-energy-savings-opportunity-scheme-esos
[27] https://www.sepa.org.uk/media/463087/esos_assessment_standards_table.pdf
[28] https://esosregister.com/wp-content/uploads/2020/03/ESOS-Compliance-Audit-Need-to-Know-Guide-v6.pdf

These details could be summarised in an 'ESOS compliance report' required as part of the ESOS report. This would build on the basic information that participants must include in a notification to the scheme administrator but ensuring that this is also included within the ESOS report itself[29]. A suggested template is provided in Annex B.

Currently there is no mandatory requirement to include within the ESOS report the relevant information about the corporate structure of the organisation and the undertakings and sites that are being reported on. Some information is required to be submitted to the Environment Agency when notifying compliance, but this information is not always included in the ESOS report. Without this information it is difficult to be clear what the boundaries are of the organisation that is being reported on in each ESOS report.

We propose that ESOS reports should clearly set out the group structure and set out which undertakings are covered, as well as any changes since the previous ESOS report. We also propose that ESOS reports should contain a site list, broken down by undertaking, that makes it clear which sites are covered by the report and which sites have been audited within each phase of ESOS. This could be provided in an annex where an organisation has an extensive estate.

Although published ESOS guidance is clear on how company structure, aggregation and disaggregation should be dealt with within ESOS, there have still been errors found in ESOS reports audited by the Environment Agency, for example reports being signed off by the wrong director, which suggests that there is some confusion on this issue. Requiring organisations to confirm within the report itself that they have checked the correct director for sign-off could reduce these kinds of errors.

In addition to this compliance report, we propose requiring the inclusion of an overview section that looks at the organisation's performance over the whole of ESOS from Phase 1 onwards, including the results of any Environment Agency audits, what action has been taken against actions recommended previously and how effective it has been, any government support schemes that the organisations have made use of, and how energy consumption has changed over the ESOS period. This should include analysis of how energy consumption has changed between ESOS reports and the possible reasons for this change (such as energy efficiency investments, gaining or losing subsidiaries or sites, or changes to output).

We also propose that the summary report should include an overall energy intensity metric for the current phase (and previous phases where data is available), which could be in terms of kWh/m2 for buildings, kWh/unit output for industry and kWh/miles travelled for transport. This would complement existing requirements under SECR and facilitate appropriate comparison between performance in different phases, which is more meaningful than a simple comparison of total energy consumption. This metric could then be compared between phases for the whole organisation and could also be compared to a relevant net zero benchmark that would allow organisations to see how they are progressing towards net zero (see Chapter 3). This metric would also be relevant to participants in comparing their performance with other organisations (in conjunction with public disclosure as discussed in Chapter 4). A suggested template for the summary report is provided in Annex C.

[29] https://www.legislation.gov.uk/uksi/2014/1643/schedule/3/made

Consultation questions

2. **Do you agree with the general principle of making ESOS reporting more standardised, as set out above? Are there any aspects of this proposal you have concerns with?**

Reconsidering de minimis

As well as introducing a more standardised format for reporting, we also propose to make changes that ensure that the ESOS report covers more of an organisation's estate. Currently participants may exclude up to 10% of their total energy consumption through de minimis rules, meaning that there may be whole sites excluded or organisations which never audit their transport energy use. For large organisations with a high total energy consumption, excluded sites or transport could be larger than other participants' total energy use. This creates a certain level of inconsistency where the same site or fleet would be treated differently depending on which organisation it belongs to.

The de minimis exclusion was designed to allow participants to exclude very small supplies where the administrative burden of auditing and reporting would be higher than the potential energy savings to be found. When the original de minimis level was chosen in 2013 the consultation responses were finely balanced between the final 10% decision and a de minimis of up to 5% of total energy. Since organisations should have a good characterisation of their portfolio from previous phases, we believe it is right to consider parts of the significant energy consumption that may not have be looked at in previous phases.

We therefore propose to reduce the de minimis to 5%. In addition, we would welcome views on whether this should be supported by an absolute annual energy consumption threshold for any individual group, site, process or fuel type to be excluded within the de minimis exemption, to avoid the situation where large sites or fleets are being excluded because of the size of the organisation they belong to. Currently there is a light touch approach within ESOS for participants that have responsibility for less than 40MWh of consumption, where an ESOS audit is required, but it does not have to be reviewed by an ESOS lead assessor. This may be an appropriate threshold to set for the de minimis exclusion of any individual group, site, process or fuel type, or there may be another more appropriate threshold and we welcome views on this.

Consultation questions

3. **Do you agree with a change to the de minimis exemption to up to 5% of total energy?**

4. **Do you agree an energy consumption threshold should be added for individual group, sites, process or fuel types? Is 40MWh appropriate or is there a more appropriate threshold?**

An appropriate site sampling methodology

In addition to the ability of some organisations to completely exclude sites from reporting using the de minimis threshold, the current requirements around site sampling methods also allow organisations with a large number of sites to only audit a small proportion of their sites in any

detail, even where some of these sites may be much larger than the sites being included for reporting by the participants with smaller estates. In this case the recommendations provided are less useful as they are often generalised across the whole portfolio, rather than site-specific and organisations with many sites may be missing out on significant energy saving opportunities due to only auditing a few sites. At the same time, organisations with few sites will be going into much more detail with the recommendations. This amounts to a disproportionate effort on the part of organisations with few sites in relation to the likely energy savings to be found.

In some cases where an organisation has many sites which are very similar (for example where every site is a similar size and has the same equipment installed at similar times), it may be justified to sample only a small number of sites. However, where a portfolio is very diverse and includes a variety of site uses, site sizes, building types or industrial processes carried out, sampling only a small number of sites is not appropriate.

We propose to make the requirements around site sampling methods clearer, and in particular to introduce a minimum threshold for both the number of sites sampled and the percentage of total energy consumption sampled. These could be set differently for types or sizes of site, similarly to the way in which thresholds are set for air conditioning inspections. For example, for industrial sites and sites over 1000m2 the threshold could be 30% of energy consumption or a minimum of 4 sites (whichever is greater) and for non-industrial sites under 1000m2 the threshold could be 10% of energy consumption or a minimum of 4 sites. There should also be an explicit consideration given to how similar sites across the organisation are likely to be when setting a site sampling method – for example high street banking branches may be very similar, but hotel chains or a group with offices or factories across the country could be extremely different as would offshore oil and gas installations. In addition, we propose to require all sites (except those covered by the de minimis exemption) to have been audited within a set period, for example alternate ESOS phases, in order to avoid a significant proportion of an organisation’s energy consumption never being audited.

Consultation questions

5. **Do you agree with the site sampling methodology proposed above?**

Full use of available energy data

In order to properly carry out an ESOS audit and identify useful recommendations, good quality data is key. Without accurate and granular information on energy consumption it is difficult for assessors to identify unusual consumption patterns or unexplained high usage that would not otherwise be apparent during a site visit.

The ESOS evaluation identified that some ESOS assessors did not receive good quality energy data before the site audit, as would be good practice, potentially limiting the quality of the audit (this was often compounded by a lack of submetering data). Although auditors were sometimes asked to gather energy data on behalf of the organisations, in some cases organisations were not willing to pay higher audit fees for this to be done. We propose that ESOS participants should be considered responsible for providing the necessary data to the ESOS assessor prior to the site visit to allow them to carry out an effective onsite audit and that guidance should be updated to make legal obligations clear to participants. Where lack of data provision has affected audit outcomes, the participant would be considered responsible for any non-compliance or poor audit quality that results.

Analysis of half-hourly energy consumption data, where it is available, is a powerful tool to identify energy waste, to ensure that energy consumption meets site usage patterns and that the baseload energy consumption when a site is not operating is within expected bounds.

There are broadly two types of smart metering in the non-domestic market. Large electricity supplies (profile classes 5-8 and 00) and large gas supplies (consumption over 732 MWh/year) are required by energy supply licence conditions to have Advanced Meter Reader (AMR) meters fitted which measure consumption every hour or half hour and transmit readings to the supplier. Sites in electricity profile classes 1-4 or with gas consumption below 732 MWh/year are covered by the smart meter mandate. As of December 2018, all microbusinesses within the mandate must be offered a smart meter that complies with Smart Metering Equipment Technical Specifications (SMETS) by their energy supplier. Non-microbusinesses within the mandate can be offered a choice of SMETS or AMR meter, but the choice must include SMETS.

BEIS analysis of ESOS reports suggests that the consumption data recorded by smart and advanced meters is not yet routinely included in reports, despite the benefits of a more data-driven audit process. We propose that analysis of this data by the ESOS assessor should be included as standard within ESOS reports where such data is available to participants. We will consider how improved access to half-hourly data could be facilitated, including encouraging in England, and in Wales and Scotland (where smart meter policy is reserved), the installation of smart meters by ESOS participants where these are not currently in place.

Consultation questions

6. **Do you agree that ESOS reports should include an analysis of half hourly data where this data is readily available? What steps could Government take to support this?**

Improved analysis of energy data

BEIS analysis of Phase 2 ESOS audits suggests there is currently a wide range of practices as regards energy data analysis. We propose making this more standardised by requiring that ESOS audits follow an existing standard such as ISO 50002 or EN 16247. A checklist should be included at the end of the report to show that each element of the standard is covered.

We also propose to provide better guidance on where Life-Cycle Analysis is a more appropriate alternative to simple payback period calculations, and we will also review whether payback period calculations could be improved, as the ESOS evaluation research found that some participants were concerned that the estimated savings and/or costs were unrealistic, which affected confidence in the report and reduced the likelihood of pursuing the report recommendations.

In our recent consultation on Non-Domestic PRS regulations[30] we set out proposals to develop a Payback Calculator to allow landlords to identify what measures meet the 7-year payback period test under the minimum standard regulations. This payback calculator would provide standardised purchase and installation costs of energy efficiency measures, based on actual industry data. We will investigate whether the same calculator could be used by ESOS assessors to calculate payback periods for ESOS recommendations. This option may only be

[30] https://www.gov.uk/government/consultations/non-domestic-private-rented-sector-minimum-energy-efficiency-standards-epc-b-implementation

applicable to building fabric measures and not the full range of potential ESOS recommendations covering transport, industrial processes and behavioural interventions.

Additionally, we propose requiring more information within the ESOS report that allows ESOS participants to judge how they are performing on energy efficiency, rather than simply providing recommendations. As described above, we propose an overview report that looks at comparison between ESOS phases based on an energy intensity metric such as kWh/m2 for buildings or kWh per unit output for industrial processes. In addition to requiring the energy intensity metric to be compared between phases, we also propose that within the ESOS report the energy intensity metric should be compared year on year for the years within the phase to identify trends in energy consumption.

We are also considering whether it would be appropriate to require reporting on an intensity metric at an individual site and/or subsidiary level – this would allow organisations to meaningfully compare the performance of similar sites, compare site performance year on year, and prioritise actions. Some organisations (particularly those that had multiple sites or were part of corporate groups) reported in the ESOS evaluation that site-to-site or business-to-business comparisons could motivate engagement among senior managers, through creating 'competition' on the metrics. The proposed performance-based policy framework for commercial and industrial buildings over 1000m2 would require individual buildings to have a rating showing how the well the building uses energy compared to its peers, and could contribute to or satisfy this desired function. The rating scheme is set to roll out in a phased approach, so we would propose that the use of energy ratings in ESOS is recommended but not required, but this could be reconsidered once the scheme has been rolled out more fully.

Consultation questions

7. **Do you agree with the proposal to require that ESOS reports use an existing auditing standard such as ISO 50002 or EN 16247?**

8. **Do you agree with the proposals set out here to improve the information provided to participants on ESOS recommendations and how they are performing against an energy intensity metric?**

Improved information on energy management practices

ESOS audits are required at least every 4 years and therefore can only identify potential improvements at one point in time. For organisations to make a sustained reduction in energy use, or simply to prevent energy consumption from rising, good energy management practices are key. Good energy management processes can identify problems when they emerge and increase the priority of energy saving measures. The 2016 Building Energy Efficiency Survey (BEES) estimated that of the 22TWh/year abatement potential in England and Wales from measures with a 3-year payback, 49% (10.7TWh/year) of savings could come from carbon and energy management measures[31].

However, only around 50% of reports audited by the Environment Agency contained energy management recommendations. BEIS analysis of a sample of ESOS reports also found that energy management recommendations were often generic and did not provide details of how they should be implemented or the expected benefits and could be seen as 'box-ticking'.

[31] https://www.gov.uk/government/publications/building-energy-efficiency-survey-bees p.87

We propose ESOS should have a more explicit focus on energy management and behavioural change and that this should be reflected in ESOS guidance. Some ESOS reports that were analysed by BEIS scored participants against the Carbon Trust energy management matrix. This scores organisations against several criteria, such as dedicated personnel working on energy management and monitoring of energy bills, which allows organisations to see how well they are performing against good practice. We propose requiring this or a similar scoring system within ESOS reports to identify good and poor practice. One of the reasons ESOS assessors may not fully consider behaviour change measures may be lack of knowledge in this area, and we will therefore consider whether more training for ESOS lead assessors on behaviour change is required (see Chapter 2).

We also propose that ESOS reports should be required to give explicit consideration to improved collection and monitoring of energy data, setting of controls, and appropriate staff training, both within the descriptive element of the ESOS report and within recommendations. In the ESOS evaluation research, assessors highlighted poor existing processes within organisations to collate and store energy use data, and in particular fuel use data, though the process of ESOS compliance did improve this in some organisations.

Consideration should also explicitly be given to appropriate submetering of major energy uses, energy monitoring and targeting solutions and improved controls for energy using equipment (including building management systems). In the ESOS evaluation research, assessors highlighted that a lack of submetering was a barrier to providing accurate payback periods, and uncertainty over payback then reduced uptake of recommendations. Better guidance on good practice with regard to metering and submetering may be helpful here. Consideration should also be given in England, and in Wales and Scotland (where smart meter policy is reserved), to the installation of smart meters for smaller electricity and gas supplies which do not have advanced metering – in addition to improved energy data this will make billing more accurate.

Consideration should also be given to energy management training for key staff with operational control of sites and more general energy training for staff with responsibility for energy-using equipment.

We propose that ESOS reports are required to include recommendations which specifically cover:

- Better data quality (for example through smart metering, submetering and/or monitoring systems).
- Better energy management processes (at corporate level).
- Behavioural change interventions (at operational level).
- Energy training requirements for relevant staff.
- Controls settings and optimisation.
- Zero and low-cost measures.
- Short term investments (up to 3-year payback).
- Longer term investments (3-7-year payback).

These should be specifically considered across buildings, transport and industrial processes. If there is no recommendation to be made for any of these, or a recommendation is inappropriate

or impractical (for example due to building lease terms), this can be stated, but these categories should be considered in all reports.

Consultation questions

9. **Do you agree there should be an explicit focus on rating and improving energy management processes within ESOS?**

Routes to compliance

There are currently three alternative routes to complying with ESOS, other than an energy audit signed off by an ESOS lead assessor: ISO 50001, Display Energy Certificates (DECs) and Green Deal Assessments (GDAs). ISO 50001 is a certified energy management system that gives organisations a recognised framework for developing an effective energy management system and is an internationally recognised certification. DECs provide participating organisations with an energy efficiency rating of their buildings from A-G based on their annual energy use compared to a relevant benchmark. A DEC is also accompanied by an advisory report which contains recommendations for improving the building's energy performance, but this is less comprehensive in scope than an ESOS report as the range of measures that can be included is limited to a particular list and less tailored to the individual site and organisation. A GDA is carried out by a Green Deal assessor and provides an EPC and an occupancy assessment for a property, along with recommendations on how to improve the property, how much each could save and what the payback period would be. Again, the range of measures included is more limited than ESOS and focused on capital works rather than behavioural changes and low cost interventions.

ISO 50001 is generally considered to be a good compliance route which requires organisations to take responsibility for their own energy management and set targets for reduction. We propose to include more information in ESOS guidance on the benefits of compliance via this route and encourage participants to comply using this route.

However, we are concerned that DECs and GDAs may not meet some of the additional standards we have proposed above, such as improved analysis of energy data, year-on-year reporting comparisons, improved energy management information and specific types of recommendations. Only a small proportion of participants have used these as compliance routes[32], and the Environment Agency has expressed concerns that compliance using these routes alone does not meet ESOS best practice standards. Although there may be potential to make changes to DECs in future so that they are suitable for the revised ESOS compliance requirements, currently we are proposing to remove both DECs and GDAs as compliance routes for ESOS.

Consultation questions

10. **Do you agree with the proposal to remove Display Energy Certificates and Green Deal Assessments as compliance routes for ESOS?**

[32] In phase 1 3.5% of participants used DECs and only 0.1% used Green Deal Assessments [Awaiting data for Phase 2]

Chapter 2: Further changes to improve ESOS report quality

As set out in Chapter 1, there is a need to improve the quality and consistency of ESOS reports in order to increase uptake of recommendations. Chapter 1 looked at standardising the requirements for the audit report in order to make the quality of ESOS reports more consistent. This chapter looks at other ways to improve the quality of the ESOS report, including ways that the ESOS report could further encourage organisations to take action.

To ensure an improvement in ESOS report quality it is important that the stronger ESOS standards set out in Chapter 1 are effectively enforced and that all ESOS assessors have the right skills and knowledge to meet these standards. It is also important that ESOS participants choose an ESOS assessor with skills and knowledge that are relevant to their sites and operations. Distortions in the ESOS assessor market due to the 4-yearly peaks in assessor demand may also contribute to problems with ESOS report quality. This chapter looks at how to strengthen the current processes for the training and monitoring of ESOS assessors, providing better guidance to participants on commissioning an ESOS audit, and measures to spread demand for ESOS assessors more widely across a phase of ESOS.

The evaluation of ESOS identified that there is some variation in how effective ESOS assessments are at encouraging participants to take action, even where the basic ESOS audit is of a good quality. This chapter therefore also considers how ESOS audits could more effectively encourage the uptake of recommendations.

Commissioning an ESOS assessor

Ensuring that ESOS assessors are appropriately trained and monitored

In Phase 1 of ESOS, 6% of organisations audited by the Environment Agency were deemed non-compliant based on the quality of their ESOS report and supporting evidence, and 65% required remedial action. There were also cases where multiple organisations using the same ESOS lead assessor failed at audit, suggesting a problem with assessor competence. This happened in the case of 8 lead assessors. Additionally, stakeholders surveyed for the ESOS evaluation research thought the quality of audits conducted through ESOS varied and some participants felt that a number of auditors provided low quality recommendations with a generic payback period, without taking into account the specifics of the site and its energy usage. Variation in audit quality was considered to be related to the overall skills of the auditor, their experience with sector-specific nuances and/or their available time and resources. However, some assessors complained that they received poorly scoped briefs for their services, which could explain why organisational expectations were not always met.

Currently, ESOS issues are often not identified until participants are called for audit by the scheme administrator, and ESOS enforcement only addresses participant failings and not problems with assessor competence. ESOS lead assessors are responsible for ensuring that an ESOS report meets the required standard, but currently there are no direct sanctions applied to ESOS lead assessors where they have signed off a report which later fails at audit, other than rectification of the audit and any potential contractual consequences with the ESOS participant.

We propose to review the current processes through which ESOS lead assessors are certified by professional bodies, and the processes that ensure they are appropriately qualified and continue to meet the required standards. In particular, we will look at the processes in place among professional bodies to quality assure reports signed off by their assessors and to identify and sanction assessors who are not performing appropriately. Where ESOS lead assessors have signed off ESOS reports which failed at audit, we will look to improve the processes for ensuring the issues are dealt with appropriately. If there have been multiple failures, it may be appropriate for an assessor to be removed from the professional bodies register of ESOS assessors.

In order to improve the information provided to ESOS participants looking for an ESOS lead assessor, we will ensure that the registers provided by different accreditation bodies are more standardised and required to provide more detailed information on assessors. This could include information on training and Continuing Professional Development (CPD) and how many assessments the assessor has completed, and possibly the facility for ESOS participants to provide reviews of their assessor.

We will investigate whether all personnel who carry out ESOS audits, and not just the ESOS lead assessor, should be centrally registered. Currently, only the ESOS lead assessor who reviews and signs off the ESOS report is required to be certified, but the site audit and report writing may have been carried out by other staff who are not required to have any qualification or detailed knowledge of ESOS requirements. This could lead to a conflict of interests where an ESOS lead assessor is pressured to sign off reports which have been carried out by another party to lower standards.

We will consider the training and Continuing Professional Development (CPD) requirements for ESOS lead assessors. Current CPD requirements are fairly general, and there are no specifically certified ESOS training courses other than a basic course required to become an ESOS lead assessor. Having appropriately certified training courses relevant to ESOS, for example on transport, industrial processes or behaviour change, could ensure that CPD carried out is relevant to ESOS. Relevant training could be listed centrally on the ESOS website.

We will also investigate whether the current entry and training requirements to become an ESOS lead assessor are appropriate and consistent across all professional bodies which provide accreditation for ESOS lead assessors. There needs to be a balance between understanding the specifics of the ESOS scheme, such as compliance and notification requirements, and ensuring assessors can carry out a good quality audit and produce an effective ESOS report. We welcome views on whether this balance is being achieved with current training and assessment.

Guidance on ESOS audits could be improved and we would welcome views on what might be usefully included. ESOS participants may benefit from additional guidance on how to commission an ESOS report and how to avoid common mistakes which lead to audit non-compliance. Although the Environment Agency produces guidance documents, including on what organisations can expect when called for audit, they could be made more widely available, including by publishing them on the central ESOS website. ESOS lead assessors and others involved in producing ESOS reports may benefit from more detailed guidance on audit best practice than is currently provided. The provision of additional detailed guidance may also reduce the number of people contacting the ESOS helpdesk and could be used to train new ESOS lead assessors and act as a reference document for existing assessors.

Some of the challenges in ensuring good quality ESOS assessments are similar to those that have been identified as part of the Call for Evidence on Energy Performance Certificates (EPCs), as both these schemes require an organisation to commission an external assessor to review an organisation's energy consumption[33]. Currently, both schemes set legal requirements only on the party procuring the assessment, whereas the monitoring of individual assessors is carried out by the professional body that certifies them to be competent. Both schemes have limited ability to sanction assessors for poor performance, and the quality assurance regime used by professional bodies to ensure standards are maintained could be strengthened. We will therefore ensure that work in this area draws lessons from similar work being carried out to improve the quality of EPCs, as set out in the recent EPC Action Plan. We will look to identify best practice in this area and ensure this is made mainstream across all ESOS professional bodies.

Consultation questions

11. **Do you agree with the proposal to improve the processes to ensure ESOS assessors are appropriately trained and monitored and are there other issues that we should address in improving the ESOS process that relate to assessors?**

Specialist ESOS advice

Although all ESOS assessors should be sufficiently skilled to carry out the majority of ESOS assessments, some organisations with specialised industrial processes, unique buildings or large fleets of vehicles may benefit from being assessed by an ESOS assessor with specialist knowledge and experience. Despite broadly high levels of satisfaction with ESOS audit reports received, in the ESOS evaluation research a few participants made references to recommendations with unrealistic pricings or uncertain rates of return. This was particularly the case in highly specialised manufacturing sectors where assessors required high levels of understanding of specific sites and processes in order to deliver implementable investment-grade audits.

As discussed previously, professional bodies which provide ESOS lead assessor registers are not currently required to provide listings in a set format and therefore not all registers provide information on the assessor's experience. Organisations may also be unaware that they would benefit from an assessor with specialist experience, or they may choose to employ an assessor with less experience on grounds of cost.

As part of reviewing these ESOS lead assessor registers, we propose to require the registers to provide information about the level of specialist expertise of ESOS lead assessors, as suggested in the ESOS evaluation research. However, in some cases it may be appropriate for an organisation to appoint a lead assessor without specialist experience, if the personnel carrying out the site visit and reporting have the relevant experience. We therefore propose to require ESOS participants to justify their choice of ESOS lead assessor and other personnel in their ESOS report, in terms of whether specialist advice was considered necessary[34]. Additionally, we propose to include more specific guidance for industrial and complex sites to allow participants to better understand when a specialist assessor is likely to be required.

[33] The content of an EPC is quite different to an ESOS report, because EPCs concentrate exclusively on the fabric of a building, whereas ESOS reports look at all ways in which an organisation can save energy, including transport and industrial processes.

[34] ESOS assessors are currently required as part of their assessment of competence under PAS 51215 to have the skills to carry out an ESOS assessment or manage other staff who have relevant specialist skills, but there is currently no requirement on the ESOS participant to justify the specialist competence of their assessor.

Consultation questions

12. Do you agree with the proposals set out here to encourage organisations to engage an ESOS assessor with appropriate skills and experience?

Addressing distortions in the ESOS assessor market

Currently, the majority of ESOS participants carry out their ESOS assessment between April and December of the compliance year (the final year of each ESOS phase). This is despite the fact that participants are permitted to conduct the ESOS assessment at any time during the 4-year cycle, as long as they specify the 12-month data period used and the total energy audited covers the organisation's Significant Energy Consumption (see below). This creates a peak in demand for ESOS lead assessors and other energy assessors (particularly specialist assessors in certain fields) during this period. The ESOS evaluation identified that the high demand for assessors close to the compliance deadline led to problems with assessor availability, cost of assessments and report quality, with the shortage in supply of ESOS assessors leading some organisations to contract lower quality assessors [35].

This effect was exacerbated in Phase 1 because many organisations were late in commissioning ESOS audits, which led either to organisations paying more for an audit than if they had carried it out earlier, or alternatively commissioning a very light touch audit. We expect this to have occurred less in Phase 2 due to participants learning from the previous phase and having access to better information on the benefits of an early audit.

The reason that most participants delay compliance until the last year may be because participants have to cover their Significant Energy Consumption (SEC) in their ESOS report, and this cannot be calculated exactly until after the Qualification Date of 31st December in the penultimate year of the phase[36]. Participants may be waiting until after they have data for the period covering the Qualification Date (which could be as late as April the following year) before commissioning an ESOS assessment.

Lead assessors and participants may not realise that ESOS energy audits can be done in a 12-month period which is different from the 12-month reference year that includes the Qualification Date. Some may consider it risky to carry out an assessment before the Significant Energy Consumption for a phase has been calculated – although for most organisations where energy use does not fluctuate significantly on a yearly basis, and ideally where energy consumption is reducing year on year, this should not be considered a high risk.

There are various options for improving this situation. Making it clearer in ESOS guidance that site visits and reports can be completed earlier, highlighting the advantages of carrying out earlier energy audits (such as lower costs) and emphasising the low risk of early audits could encourage more participants to comply earlier. There could also be a reputational incentive to being an ESOS 'early complier', if this is badged as good practice as part of public disclosure of ESOS data (see Chapter 4).

Other options could be to change the Qualification Date to an earlier year, to allow for a longer period between the Qualification Date and the Compliance Date, or to stagger phases for

[35] The ESOS evaluation covered only the period of Phase 1 reporting, but anecdotal evidence from ESOS assessors and industry bodies suggests this problem has persisted in Phase 2.

[36] The Significant Energy Consumption has to be at least 90% of the Total Energy Consumption, which in turn has to be based on 12 months of data, and these 12 months have to include the Qualification Date for the relevant phase, which is approximately 1 year before the end of the phase. For example in Phase 2, which ended on 5th December 2019, the qualification date was 31st December 2018.

different industry sectors (for example based on SIC code) so that different sectors have different Compliance and Qualification Dates. However, staggering phases could create additional complexity and confusion for participants.

Consultation questions

13. **Do you think that we should make changes to the scheme to change the Qualification date or stagger phases for different sectors, or will the softer measures set out be sufficient to encourage more participants to comply earlier than the final compliance year?**

Encouraging action

In addition to improving the general quality of ESOS reports, there is also an opportunity to specifically make ESOS more effective in steering participants towards taking action based on their ESOS report.

The ESOS evaluation found that the take up of recommendations was linked to both organisational motivation and capabilities. Lack of funding was cited as a barrier by around 40% of participants in the evaluation. However, a 2012 report commissioned by the former Department of Energy and Climate Change (DECC) into barriers to energy efficiency investment found that for larger organisations, often the barrier is not absolute lack of capital, but a lack of strategic priority placed on energy efficiency. This prevents projects from being successful in investment decision making processes. Other barriers identified in the evaluation were a lack of technical expertise, including the ability to break down the recommendations into actionable steps, and corporate group structures where there was poor dissemination of information to subsidiaries from parent organisations.

Various approaches are considered here that may help to tackle some of these barriers, drawing on lessons from the ESOS evaluation as well as the ORGANISER framework developed by DECC on a behavioural approach to influencing organisations[37]. In particular, this section looks at how presenting information in the ESOS report to be more in line with how participants make decisions and making it easier for them to engage with next steps could encourage greater uptake of recommendations.

In addition, some further research may be needed into appropriate behavioural change techniques to include within ESOS reports to make the case for action more persuasive.

Present information more effectively

The ESOS evaluation research identified that there was variation, not just in the quality of the ESOS audit itself, but also in the presentation of recommendations within the ESOS report. Where ESOS reports did present information well, engagement with the recommendations was improved. The format of the report was generally determined by assessors rather than participants, meaning that the effectiveness of the recommendations mainly depended on the approach taken by the assessor and the price paid for the audit.

37 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/508516/6_1906_DECC_Organiser_document_proof_150316_v8b.pdf

There are various ways in which ESOS reports could be designed to encourage action. ESOS assessors surveyed as part of the ESOS evaluation research reported a range of techniques, such as the use of more engaging terms (e.g. “energy productivity” rather than “energy efficiency”), presenting cost savings in terms of salient metrics such as the equivalent increase in sales turnover, or presenting information as dashboards, graphical representations and other easy to understand formats. Linking in ESOS recommendations to an organisation’s existing environmental, sustainability or Corporate Social Responsibility commitments, or to other organisational priorities, could also improve engagement with ESOS. Some ESOS assessors reported linking energy efficiency opportunities to new product lines, new building outfitting, job creation or the purchase of new equipment.

Another way of encouraging action could be to give more explicit consideration to wider benefits of energy efficiency technologies, in addition to direct energy cost savings. The ESOS evaluation research suggested that in some cases organisations implemented measures with longer payback periods due to non-financial or indirect benefits, such as improved workforce conditions or improving product quality. Even where this was not the aim, some participants reported co-benefits of ESOS recommendations. such as improved staff productivity and wellbeing, better customer experience, earlier identification of equipment failures, and reduced noise from production lines. Some energy efficiency technologies can bring additional financial benefits, such as reduced maintenance costs or longer product lifetimes, which may not be taken into account when calculating simple payback periods, but where a full life-cycle costing approach may not be proportionate. Setting out these additional benefits within the ESOS report could increase the uptake of recommendations.

There are other ways to encourage action, based on behavioural science, which could be adopted within ESOS reports. The Carbon Trust currently presents the predicted savings from an energy efficiency measure in terms of money being wasted until the measure is adopted – a good example of the behavioural insight that people are more psychologically motivated by avoiding losses than creating benefits[38]. Providing information that shows that many other organisations have taken action on a particular issue (such as driver training or upgrading to LED lighting) can also be effective in driving the uptake of recommendations – people are more likely to carry out an action if they perceive that most other people perform it.[39].

To ensure that more effective techniques for encouraging action are included within ESOS reports, we propose to follow the approach taken in the Netherlands of providing a recommendations template. This has supported consistency in the quality of returns received from auditors, and helped organisations understand what to expect from their audit process. A possible format is provided in Annex D. This could encourage higher quality and more consistent presentation of data to businesses, with guidance on the most engaging language to use, how to prioritise recommendations lists, and what types of financial metric to include to facilitate business case development. Improving training for ESOS lead assessors on how to present ESOS recommendations could also be effective. This could be achieved by making changes to the Publicly Available Specification (PAS) 51215, which sets the specification for the knowledge required to become a qualified ESOS assessor.

[38] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/65601/6925-what-are-the-factors-influencing-energy-behaviours.pdf
[39] https://www.bi.team/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf

Better information on next steps

Another way that ESOS reports could be more effective in driving action is to provide better information to participants on next steps.

The ESOS evaluation identified that lack of energy management expertise was a barrier to action in some organisations, particularly where compliance with ESOS was led by staff for whom energy management was a small part of their role. Such organisations had difficulty breaking down the recommendations into actionable steps – for example, what type of contractor, and terms of reference, might be required to implement recommendations. BEIS analysis of Phase 2 ESOS reports found a varying level of detail given on how to implement recommendations. We therefore propose the provision of better guidance for assessors on signposting to organisations how recommendations can be implemented, and breaking down complex recommendations where appropriate into simpler steps. This will also be incorporated into the recommendations template as described above.

Providing information on financing ESOS recommendations and on external sources of support could also increase the uptake of recommendations. ESOS reports should signpost participants to existing government support, including funding schemes such as the Industrial Energy Transformation Fund (IETF) and Scottish IETF, Renewable Heat Incentive (RHI), the Workplace Charging Scheme (WCS), and impartial advice such as the government-maintained Energy Technology List which gives information on best practice energy efficient technologies. Some consideration of appropriate financing mechanisms may also be appropriate, such as consideration of Energy Service Company (ESCo) models for more major investments. The ESOS evaluation research suggested that the implementation of ESOS recommendations was more likely when the audit was ‘investment-grade’, so that organisations could make a decision on the capital investment required without need for further studies.

A measure identified in the ESOS evaluation research that was adopted by some other European countries was to improve the information provided to participants outside of the ESOS report itself. This included: extensive guidance and sectorial FAQs; knowledge-sharing tools such as databases providing payback periods, benchmarks and best practice examples; the creation of energy networks to encourage organisations to share best practice and create a community working towards change; and training for energy managers. Readily available guidelines, tools and/or expert advice could help to prepare companies for audits in advance and could also provide additional sources of knowledge when it comes to implementing recommendations. We will consider whether these are feasible to implement for ESOS.

Packaging recommendations together into a suggested programme of works may also improve uptake. For example, packaging together a range of very low cost and medium cost actions together into a programme of work that together pays back within 3 years may prompt more action than showing the individual recommendations, where organisations may be likely to carry out only the very low cost options. Where organisations have energy managers, this is something they would likely put together to take to the board, but where organisations lack them, the ESOS assessor would be well-placed to put together an appropriate package.

Information on next steps should also give explicit consideration to appropriate intervention points, lease terms and building/equipment lifetimes. Some audits may identify the potential for more efficient plant equipment, but this is likely to be costly and not pay back in a short period. However, an appropriate future intervention point can be flagged such as natural replacement cycles.

The ESOS evaluation research identified that lease terms were a limiting factor for organisations when considering implementation of measures. In some cases, this could be where the participant has the power to make changes under the terms of a lease, but is unwilling to invest in a building with a short time remaining on the lease. In other cases this could be because the power to make changes is limited under the terms of the lease. Recommendations should therefore reflect both what is possible under the terms of the lease and what an appropriate intervention point might be.

Where buildings are leased, there is currently a legal requirement in England and Wales on the landlord that a property must have an EPC rating of E or higher for leases entered into since April 2018, and this will come into force for all existing leases from April 2023. In the 2020 Energy White Paper we also committed to requiring leased buildings to reach EPC B by 2030[40] and in March 2021 we published a consultation on introducing an interim requirement for EPC C by 2027[41]. These increasing standards should help to address building fabric and HVAC recommendations raised within ESOS reports where the terms of a lease restrict what works the tenant can undertake. Under current regulations, tenants have the right to see the EPC and if the property does not meet the minimum standards the tenant can report this to the Local Authority who are responsible for enforcing the minimum standard. ESOS reports should make these issues clear to ESOS participants.

We propose that the measures set out above on presenting recommendations more effectively and providing information on next steps will be addressed by the proposed recommendations template as well as through improved training for ESOS assessors through changes to PAS 51215.

Requiring dissemination of the ESOS report

In addition to improving the way recommendations and next steps are presented in the ESOS report, we also propose to introduce a requirement that ESOS reports are disseminated to subsidiaries within a corporate group, in order to increase uptake of recommendations by subsidiaries. Poor dissemination of ESOS reports was highlighted within the ESOS evaluation as a barrier to participants taking action. Currently, the board of the highest parent is required to sign off the ESOS report, but there is no requirement to share the report with subsidiaries, where an ESOS report covers a corporate group. As a result, the ESOS evaluation highlighted that only 50% of ESOS participants take any action to share ESOS results with other organisations in the corporate group, which inhibits undertakings below the parent level from taking up recommended actions. Requiring greater input from subsidiaries within a group, and a requirement that the results of the ESOS audit are disseminated to all subsidiaries and not just kept at parent company level may be effective in ensuring recommendations are taken forward.

Consultation questions

14. **Do you agree with the proposals to provide an ESOS recommendations template to improve the presentation of ESOS recommendations and the information provided on next steps?**

40 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/945899/201216_BEIS_EWP_Command_Paper_Accessible.pdf

41 https://www.gov.uk/government/consultations/non-domestic-private-rented-sector-minimum-energy-efficiency-standards-epc-b-implementation

15. **Do you agree with the suggestions to provide better guidance on next steps in order to encourage uptake of recommendations and the requirement to share the ESOS report with subsidiaries?**

Chapter 3: ESOS and net zero

In addition to making changes to reporting requirements to improve quality and encourage action; we are also considering how ESOS could be better designed to align with net zero targets. This chapter looks at proposed changes to ESOS that would encourage participants to consider how net zero will affect their organisation, as well as ensuring that ESOS recommendations are aligned to net zero goals.

Currently, ESOS audits are often focused on short term cost savings from energy efficiency and may not look at strategic longer-term considerations for investment in plant, buildings and equipment. Following the UK's commitment to net zero carbon emissions by 2050 there is a recognition by many businesses that short term measures are not sufficient and that longer-term thinking is needed. Many new initiatives have been developed both nationally and internationally in recent years both by businesses and other organisations which support businesses to achieve carbon reduction, carbon neutrality and net zero goals. These include the Science-Based Targets Initiative, the We Mean Business Coalition, SME Climate Hub and many others. They have been united as part of the UN's global 'Race To Zero' campaign, which the UK Government has urged businesses to sign up to, and which mobilises non-government actors to lead and support the shift to a decarbonised economy ahead of COP26[42].

Increasing numbers of businesses have also published net zero targets or strategies. The Business in the Community 2019/20 Responsible Business Tracker survey found that 29% of respondents stated they have developed science-based, net zero or carbon restorative targets[43], and analysis by the New Climate Institute found that from 2019 to 2020, momentum towards net-zero targets has grown significantly worldwide, roughly doubling the number of pledges, with over 1,500 companies having committed to a net zero target[44]. This is in addition to more established carbon reduction initiatives such as the Carbon Disclosure Project.

However, activity in this space is still patchy, and there has not always been agreement as to how net zero should be defined, although this is now being addressed as part of the 'Race To Zero' campaign and the Government's commitment to publish, ahead of COP26 a comprehensive Net Zero Strategy which will raise ambition as we outline our path to meet net zero by 2050, our Carbon Budgets and Nationally Determined Contribution (NDC). In this context, we consider it appropriate to look at how ESOS can help businesses to consider their longer-term climate impacts as well as shorter term cost savings and reframe ESOS from a cost-saving scheme to a broader review of business energy use.

An important matter to address is that short term cost saving actions recommended through the current ESOS scheme may conflict with longer term investments that will be required to get businesses on a trajectory to meet UK net zero targets, such as investment in zero carbon technologies, electric vehicles and clean heat. For example, replacing a fossil fuel boiler with a more efficient model could lock an organisation into a high emissions pathway if low carbon alternatives are not considered. Carbon reduction actions that do not generate a direct energy cost saving may not currently be considered as part of ESOS, even where there may be other benefits. When making changes to ESOS in relation to net zero, we will also consider other

[42] https://unfccc.int/climate-action/race-to-zero-campaign#eq-1
[43] https://www.bitc.org.uk/report/2019-20-responsible-business-tracker-insights-report/
[44] https://newclimate.org/2020/09/21/accelerating-net-zero-exploring-cities-regions-and-companies-pledges-to-decarbonise/

relevant policies which address similar issues around short-term energy vs longer term carbon savings, such as the proposed performance-based rating for large buildings and EPCs, and ensure that any methodology developed is consistent.

This also represents a broader opportunity to prompt businesses to consider the longer-term impacts of energy-using technologies and how their operations will need to change in the future so they can become net zero. ESOS could help organisations to identify risks with their current energy-using practices and how these could be mitigated with investment in cleaner technologies or operational changes. It could also help organisations to put together a plan for decarbonising their buildings, transport and industrial processes.

Refocusing ESOS on strategic considerations could also help drive better engagement with ESOS at a higher level within organisations, rather than being seen as a small-scale compliance and cost reduction exercise[45]. In the current COVID climate, businesses are showing increased appetite to address longer term disruptive risks to their operations, including net zero concerns. ESOS can provide a standardised framework for businesses to address these issues. It also demonstrates that government is committed to helping businesses understand their responsibilities in moving towards a net zero future and provides an impetus for organisations that have not yet considered net zero to make a start on this.

We therefore propose to include within ESOS, an assessment of which current energy-using processes and activities need to be addressed for businesses to become net zero with regards to its direct energy use. We do not necessarily expect the ESOS audit to provide technical solutions to all the issues identified. For some hard to decarbonise sectors, this technology may not exist yet or be commercially viable but the ESOS audit should flag risks that exist in these areas. We do not propose that ESOS specifically considers net zero-related impacts on an organisation's energy use that is outside of its direct control. This is partly on the grounds that it would represent a major change in the scope and focus of ESOS and partly because it would increase the complexity and cost of ESOS audits and make the scheme too unwieldy, both in terms of participant compliance and regulatory enforcement. However, there may be scope for ESOS participants to include wider net zero impacts, such as supply chains, in their ESOS assessment on an optional basis, which is discussed later in the chapter.

Current scope of ESOS and other relevant schemes for net zero

The original objectives of ESOS were to:

- Provide large undertakings with enterprise-specific information about how they can make energy savings.
- Stimulate the take-up of cost-effective energy efficiency measures.
- Minimise the cost to businesses of complying with the regulation.
- Maximise the synergies with existing policies.

ESOS, as a scheme, has focused on reducing energy consumption rather than looking at carbon emissions, and has particularly focused on energy efficiency measures that have a short-term payback.

[45] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/65601/6925-what-are-the-factors-influencing-energy-behaviours.pdf

The requirements for the ESOS audit are light touch and do not specify in much detail what needs to be included, with the aim that businesses decide for themselves what they want to pay for.

Some organisations may take the opportunity to look at other energy issues related to reducing carbon emissions, such as renewables and smart technologies, but this is not a requirement. Most ESOS reports currently include carbon emissions in addition to units of energy and energy cost when providing data, but is not required under the scheme.

There is not currently any widespread scheme that requires organisations to look at how they can reduce their carbon emissions across their operations; including buildings, transport and industrial processes, although there are price signals such as the Climate Change Levy (CCL), and the Emissions Trading Scheme (ETS) which does incentivise carbon reduction for major emitters. The SECR framework does require organisations to report on both carbon and energy. However, the scheme is purely a disclosure scheme and does not require organisations to assess how carbon emissions can be reduced, although organisations should report actions they have taken to reduce energy and carbon emissions. We have also recently consulted on a requirement for the largest UK registered companies and LLPs to disclose climate-related financial information in annual reports in line with the four overarching pillars of the Taskforce on Climate-related Financial Disclosure (TCFD) recommendations on a mandatory basis (Governance, Strategy, Risk Management, Metrics & Targets) from April 2022[46].

Introducing a net zero element to the existing audit

Assessment of direct greenhouse gas emissions

In addition to the current audit requirements, we propose that the ESOS audit should also include an overall assessment of carbon emissions and other greenhouse gas emissions resulting from energy use in buildings, transport and industrial processes which the organisation will need to address to be carbon neutral or net zero by 2050.

In particular, this should include an assessment of current fossil fuel use and direct greenhouse gas emissions from the business, along with the potential for decarbonisation and when relevant investment might occur. This should cover the following areas:

- Heating and hot water systems currently powered by fossil fuels and the most suitable options for moving to low carbon heating, such as heat pumps, district heating, biomass heating, hydrogen as a fuel or other low carbon heating.
- Other material direct greenhouse gas emissions which result from the use of energy in buildings.
- Industrial processes that are dependent on the use of fossil fuels for heat and the scope for decarbonisation.
- Industrial processes which produce carbon dioxide or other greenhouse gases directly and the scope for decarbonisation.

[46] https://www.gov.uk/government/consultations/mandatory-climate-related-financial-disclosures-by-publicly-quoted-companies-large-private-companies-and-llps

- Fuel use by cars and other light vehicles (including grey fleet) and the scope for moving to electric or other zero emission vehicles – including necessary charging/refuelling infrastructure.
- Fuel use by heavy vehicles and the scope for decarbonisation in the longer term.
- Fuel use by other transport (company-owned trains, planes and vessels) and the scope for decarbonisation.
- Options for reducing the need to travel for work purposes such as increased use of virtual meetings and other technological solutions.

This assessment should identify what the low and/or zero carbon options are for each technology, the potential for investment and cost-effectiveness in the shorter or longer term, and when a suitable intervention may be (for example end of life of current plant/equipment/vehicles). It should also identify any conflicts between energy efficiency actions identified within the ESOS audit and longer-term carbon reduction options (for example the replacement of fossil fuel boilers with more efficient models vs replacement with low-carbon heating options such as heat pumps). Where UK government or devolved administration policy has already outlined that technology will be phased out in future, such as off-gas grid fossil fuel heating and petrol and diesel vehicles, this should be flagged. It may also be appropriate to identify any other relevant environmental impacts of suggested carbon reduction measures such as the air quality benefits of moving to electric vehicles or air quality concerns related to increased use of biomass for heating.

Net zero benchmarking

In addition to an assessment of fossil fuel use, we propose that the net zero assessment should also address a participant's overall energy intensity, including electricity use, and how this is consistent with the UK's net zero commitment.

In order for the UK to meet net zero targets, sectors such as transport and heat which are currently predominantly powered by fossil fuels will need to be electrified. As a result, UK electricity demand could double by 2050 if measures are not taken to reduce overall electricity demand. In order to avoid unnecessary, costly reinforcement of the electricity network and to maximise the use of renewable generation, businesses will need to reduce electricity consumption where possible and think about consuming electricity in a smarter and more flexible way.

The net zero ESOS assessment should therefore include net zero benchmarks and trajectories that allow businesses to see how their current energy intensity (in kWh/m2, kWh/unit output, kWh/miles travelled or another appropriate sector-specific benchmark) compares to the energy intensity that will be needed to reach net zero. The performance-based rating scheme for large commercial and industrial buildings will develop benchmarks and an accompanying net zero rating scale for each building sector or sub-sector in scope of the scheme and we expect to use these or develop something similar for ESOS. The ESOS summary report section described in Chapter 1 should summarise how the organisation is performing against an overall net zero trajectory for the organisation.

Looking at other net zero impacts from electricity use

We propose that the ESOS assessment should also look at the impact of the business's electricity use on the carbon emissions from the wider electricity system and any opportunities

for investment, other than reducing overall electricity use (which is covered already within energy efficiency opportunities).

In particular, the assessment should identify the potential for investment in renewable electricity, as well as the potential for load shifting of electricity use to off-peak times and for investing in smart technologies and storage solutions that facilitate this.

Impacts of bringing in a new assessment on ESOS scheme design

We are currently considering whether it is more appropriate to include the net zero element to ESOS wholly within the current ESOS structure, or whether it would be more effective to have a separate net zero report or section within the existing report. Integrating the net zero element into the current structure would require greater changes to the current process and may introduce confusion for some participants as to whether recommendations provided are related to energy efficiency or carbon reduction, but having two separate elements could lead some participants to put less weight on the net zero recommendations or see them as tangential to the current audit.

One advantage of a combined report would be that when putting together a suggested programme of works (as set out in Chapter 2), ESOS assessors could include both energy efficiency and carbon reduction options. This could allow savings from energy efficiency actions to cross-subsidise potentially more costly carbon reduction options. It may also be important when considering the installation of clean heat options such as heat pumps to ensure that the necessary energy efficiency upgrades are considered alongside to ensure that heating (and possibly cooling) demands are reduced first so that the heating system is appropriately sized.

Another consideration when introducing a net zero element to ESOS is how this would work for organisations which currently comply using ISO 50001, as this standard does not currently include an explicit consideration of net zero. We are keen not to disincentivise participants from complying via ISO 50001 as this is one of the more effective ways of complying with ESOS. One of the advantages of complying entirely via ISO 50001 is that there are minimal administrative burdens relating to ESOS compliance, so requiring these organisations to carry out a separate net zero audit may impact some of the key drivers for compliance using this route. We would welcome views from participants on how a net zero element could be incorporated when organisations use the ISO 50001 compliance route whilst limiting additional administrative burdens for participants who choose this compliance route. In particular, we would welcome views on other appropriate environmental or net zero standards that could be used in conjunction with ISO 50001.

A further consideration when introducing this net zero element to ESOS is that it may require additional training for ESOS assessors which may impact on the quality and cost of ESOS audits. We will need to consider how these challenges can be effectively managed by the profession, looking at necessary improvements to assessor training, quality assurance and enforcement.

Including an option for businesses to go further

Some businesses may also wish to consider further concerns relating to net zero that do not fall within the current scope of ESOS, which covers only energy for which the participant is responsible. This may be because they identify that there are more significant determiners of

their future net zero impact than those covered purely by energy use, or because they wish to carry out a holistic audit of all net zero aspects at the same time.

We propose to develop a methodology which will allow companies that wish to go further to do so, though we do not propose to require that all businesses use this. Aspects that this is likely to cover include:

- Business travel by staff (other than in company-owned vehicles and grey fleet, which is already covered under ESOS) and the potential for incentivising selecting the lowest carbon mode of transport, incentivising staff use of zero emission vehicles, making it easier to book train travel and by reimbursing the use of personal electric vehicles at a preferential mileage rate.
- Reducing carbon emissions from staff commuting, for example by encouraging car sharing, use of electric vehicles and public transport use or providing staff facilities for walking, cycling and electric vehicle charging.
- Other business impacts on carbon emissions, such as waste, resource use, water use, supply chain emissions and impact on customer behaviour.
- Adaptations to emerging and future impacts of climate change, such as overheating in buildings.

We would expect that companies could choose to look at all of these or only some aspects that are particularly relevant.

The assessment could also include setting appropriate targets for the business to reduce carbon emissions, for example, by linking to the existing Science Based Targets Initiative[47], but again, this would be discretionary.

Where organisations choose to go further than the minimum requirements, they would have the option to disclose this via the ESOS public disclosure website, though this would not be mandatory.

Consultation questions

16. **Do you agree that ESOS should include an assessment of actions needed to meet future net zero commitments, as set out here? If a net zero element is included as set out above how might this impact the cost of an ESOS audit?**

17. **Do you agree that this should include impacts on the electricity system as well as direct carbon/greenhouse gas emissions?**

18. **Do you think that the net zero element to ESOS should be included within the existing report structure or added as a separate reporting element?**

19. **Do you agree that government should set out a methodology for companies to include other net zero and climate aspects including adaptation in their audit if they wish to?**

[47] https://sciencebasedtargets.org/sectors

Chapter 4: Reporting and disclosure

The preceding chapters have addressed measures to improve the quality of audits, with the indirect aim of improving uptake of recommendations, as well as ensuring ESOS audits align with net zero targets. This chapter looks at introducing an additional public disclosure aspect to ESOS which is specifically designed to encourage participants to take action on their ESOS recommendations. It also addresses the relationship between ESOS and another business reporting scheme, SECR, considering the possible overlap and synergies between the two schemes.

As set out above, evidence from the evaluation of ESOS suggested that ESOS could be more effective at encouraging participants to take action and one of the main factors which determines the effectiveness of energy audits at delivering energy efficiency savings is strong senior management engagement with the auditing process. One finding from the evaluation was that ESOS participants may be more likely to take action if they were better able to compare their performance with other relevant organisations, and that business-to-business competition could generate more incentive to take action. The evaluation also suggested that public reporting of performance could generate more pressure from the wider corporate group or shareholders to demonstrate progress and positive results.

The evaluation report separately identified approaches used by other countries in Europe to increase engagement by requiring organisations to set a target or action plan and to report on actions taken to improve energy efficiency, which improved engagement with the scheme other than in compliance years and encouraged participants to take action. Public disclosure of progress against such targets or action plans could also produce more of an impetus to action.

The report suggested however, that mandatory reporting on its own is less likely to drive action on energy efficiency and needs to be linked to more significant measures, such as league tables or ‘name and shame’ publications to avoid being viewed as a ‘tick box’ exercise. This suggested approach would go beyond the requirements that have been introduced as part of the SECR framework which requires UK-incorporated companies to report in their annual directors’ reports on energy and carbon but does not allow the facility for easy comparison between organisations as the data sits in individual companies’ reports rather than a central portal.

We are therefore proposing to introduce a requirement for ESOS participants to publicly disclose high level information from their ESOS report on a central website and to set a target or action plan which they are required to report against (though there would be no penalty for not achieving the target/plan other than a reputational risk at this stage). The aims of these changes are to allow ESOS participants to compare their ESOS data and performance to other ESOS participants, to allow third parties to view ESOS data and hold ESOS participants to account, to improve the quality of ESOS audits by increasing transparency of the ESOS process and to encourage participants to take action on the basis of their ESOS reports by making public their progress against actions they have committed to take. We propose that the format should allow organisations explicitly to compare performance, but we do not consider that a league table is appropriate for ESOS as there is not one clear metric on which to rank ESOS performance, so this approach would allow comparison across various metrics such as progress against internal targets or energy management proficiency.

We recognise that a public disclosure element to ESOS may appear to have some overlaps with the SECR framework, but the two schemes are designed for different purposes and have

different strengths and the intention is that these two schemes should work together effectively for businesses without creating additional burdens. This is addressed in more detail later in the chapter. As part of this work, we propose to align the thresholds that define a large organisation across ESOS and SECR to ensure that the two schemes are as closely aligned as possible.

Introducing a requirement for disclosure would necessarily require making changes to the data that is collected centrally about ESOS. Currently, ESOS participants are not required to report energy efficiency information from their ESOS reports to the Environment Agency. This means that this information is only currently checked when participants are audited, and not all participants are likely to be audited within a given phase of ESOS. An additional benefit of requiring more information to be reported to the Environment Agency is that potential compliance issues could be identified more easily, which would provide a lighter touch route for investigation than Environment Agency auditing and would allow full audits to be targeted more effectively.

Current ESOS notification requirements

Under the ESOS current scheme, organisations are required to report minimal data to the Environment Agency (or devolved scheme regulator) via a web portal. This is based on the requirements set out in Schedule 3 of the ESOS Regulations. Organisations currently report:

- Company details, including Companies House registration where relevant
- Whether the organisation qualifies for ESOS
- Business sector
- Data on organisational structure and corporate groups
- Clarification of which parts of the group the notification relates to
- Primary and secondary contact details
- Whether the organisation has responsibility for energy
- Board sign off data
- Compliance routes and de minimis consumption
- Lead assessor details
- Use of 12 months energy data, estimates and energy profiling for ESOS compliance
- Use of benchmarks and targets
- Has ESOS data been published, and where

The information reported is primarily used by the Environment Agency and regional regulators to check compliance, although the Environment Agency also publishes basic

information from the compliance responses[48]. There is currently no requirement on participants to disclose their ESOS data themselves.

ESOS participants that are also SECR participants are required to annually disclose some energy and carbon data through their annual reports as part of SECR reporting, and are encouraged to draw on their ESOS recommendations under 'energy efficiency action' section of their SECR reports.

Requiring a commitment to action

One reason suggested by stakeholders that ESOS is less effective at driving action than intended is that the 4-year compliance cycle (for those that do not comply via ISO 50001) is too infrequent to maintain visibility with decision makers and this leads to periods of short, concentrated activity around compliance deadlines with no action in between.

We propose two complementary approaches to increase engagement between ESOS reports which were suggested in the ESOS evaluation report following approaches taken in other European countries. In some countries participants were asked to set targets or to commit to an action plan to carry out recommendations as part of their equivalent audit scheme. This is consistent with behavioural research that suggests people who commit to action in a formal way are more likely to carry it out[49]. Producing an action plan can also help organisations to identify possible barriers to action and how to address them. Additionally, in the Netherlands interim reporting on implementation of recommendations is required. We propose to combine these two approaches, to require setting a target or action plan and reporting against progress annually.

We do not propose that it should be mandatory to meet the target or complete the plan, but organisations would be required to explain why they have not met their goal. This could also introduce intermediate obligations such as the publishing of an action plan within 12 months of the ESOS compliance date which could sustain engagement between ESOS reports. This approach of setting targets, committing to actions and continuous improvement would make ESOS reporting more consistent with some of the beneficial features of compliance via ISO 50001. Organisations that have Climate Change Agreements (CCAs) could include their CCA targets but could also include additional targets or plans for energy uses that fall outside the scope of the CCA.

We propose that participants should include any target or action plan set in a previous phase within the ESOS summary report described in Chapter 1, as well as progress against this[50]. We also propose that participants should report progress centrally to the Environment Agency either mid-phase or on an annual basis. This would help to maintain the visibility of ESOS with decision makers in the periods between ESOS audits and prompt participants to more regularly review their actions on energy efficiency. We also propose that this progress should be included as part of the information to be publicly disclosed by ESOS participants, as set out under public disclosure requirements below.

[48] https://data.gov.uk/dataset/15eb8228-32e4-40e1-b722-b2efe571edd3/energy-savings-opportunity-scheme
[49] https://www.bi.team/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf
[50] For example in the Phase 4 ESOS report organisations would include information on the target/action plan set following the Phase 3 report, as well as information on whether this was achieved

Additional data reported via the central portal

In order to facilitate public disclosure of ESOS data, and also to facilitate improved monitoring and enforcement of ESOS compliance, we propose to require that ESOS participants submit additional data from their ESOS report when they submit their ESOS compliance notification. This would build on the suggested reporting structure proposed in Chapter 1. We propose the information submitted should be:

- The organisational structure of the corporate group covered by the report, including listing all subsidiaries included within the report.*
- Total organisational energy consumption, energy cost and resulting carbon emissions[51], broken down by:
    - Fuel type.
    - Use category (buildings, transport or industry).
- Total energy consumption, energy cost and carbon emissions, broken down similarly for ESOS phases 1 and 2, where the organisation was obligated to comply during these phases (organisations would have the opportunity to comment on any high level changes affecting trends across phases such as mergers, acquisitions or significant output/process changes).*
- Energy consumption by relevant intensity metric for each fuel type/use category.*
- Total predicted savings from ESOS recommendations, broken down by:
    - Organisation (for group level reports).
    - Fuel type.
    - Use category (buildings, transport or industry).
    - Recommendation type (capital investment, controls upgrades, behavioural changes and energy management practices, improved data and monitoring).
    - Payback period (1 year or less, 2-3 years, 3-7 years, over 7 years).
- Total predicted savings from ESOS recommendations broken down similarly for Phases 1 and 2, where the organisation was obligated to comply during these phases.*
- Total energy and carbon savings from ESOS recommendations (kWh/tCO2 as predicted by the original ESOS report) carried out since the beginning of the scheme (conversely the equivalent could be to report on recommended savings that have **not** been taken up).*
- Current government support received for carbon emissions or energy consumption.*
- Number of sites operated by the organisation and site sampling method used.
- Energy audit method/standard used (e.g. ISO, BS).*
- Results of assessment of energy management practices (see Chapter 1).*

[51] To avoid the risk of different organisations using inconsistent carbon emission calculations, we would expect to collect data on energy consumption by fuel type through the notification portal and carbon emissions would automatically be calculated through the website.

- Energy/carbon reduction target or action plan set by the participant and the date by which targets or actions are expected to be achieved (this may also include CCA targets where relevant)*
- Potentially also high-level data on results of net zero audit (see Chapter 3).*

The bullet points marked by an asterisk are not currently required in ESOS reports, but as set out in elsewhere in this document we propose requiring them for Phase 3 onwards subject to legislative approval. The data needed to complete these reporting requirements would be set out in the ESOS compliance report and/or summary report sections to the ESOS report that are proposed in Chapter 1.

In addition to these requirements, participants would be required annually to report on their progress against their proposed target or action plan as set out in the previous section.

For organisations choosing to comply using ISO 50001 across all their operations we would propose a lighter touch requirement based on data that is recorded through ISO 50001. Organisational structure and number of sites, annual energy consumption and cost, savings potential, targets and measures carried out since the previous phase should all be recorded as part of ISO 50001 so could still be captured through the same reporting process as organisations complying via audits.

Public disclosure of reported data

Having submitted the data outlined above, we propose that this would be published in a table on a dedicated web portal against the organisation's name and company number, as well as the following data currently collected:

- Business sector.
- Compliance routes and de minimis consumption.
- Use of 12 months energy data, estimates and energy profiling for ESOS compliance.
- Use of benchmarks and targets.
- Scheme compliance under each phase (such as any late notification/failure to comply).

This data would not be published in the form of a league table as there is no clear metric to judge overall performance on because of the multiple metrics on which organisations could demonstrate good or poor practice, such as progress against targets or absolute reduction in energy consumption since the beginning of the scheme. However, we propose that the format should allow participants to compare their performance with other ESOS participants that they deem relevant (such as by industry sector, compliance route, number of sites or total energy consumption) and should allow filtering data by different reporting categories (such as total savings achieved or energy management assessment result). We could also include particular 'badges' for good performance, for example for organisations that comply early or have made significant savings.

We expect to publish this information annually, even though most information will only be collected every 4 years, in order to incorporate organisations' annual updates on progress they have made against their target or action plan. We will also investigate how publication of ESOS data at organisation level can be appropriately linked to building-level reporting for an

organisation such as the proposed performance-based rating, DECs and EPCs to allow organisations to easily access all relevant data in a useful way.

Aligning ESOS and SECR

The above proposals set out how a reporting and disclosure scheme could work for ESOS. However, we are aware that there is an existing reporting structure for companies under the SECR framework and this section sets out how the two frameworks would work together. We propose to make changes to ESOS to better align the qualification criteria for the two schemes.

The table below sets out the differences between ESOS and SECR.

Figure 1: Differences between ESOS reporting (as proposed in this consultation) and SECR

	ESOS	SECR
Qualifying organisations	Large undertakings operating in the UK	Large or quoted companies, and large LLPs, registered in the UK
Legal basis	Introduced through The Energy Savings Opportunity Scheme Regulations 2014 using powers under the European Communities Act 1972	Introduced through The Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 using powers under the Companies Act 2006 and the Limited Liability Partnerships Act 2000
Purpose of scheme	Require organisations to audit their energy consumption and encourage them to carry out recommendations	Increase transparency of energy use and carbon emissions, and energy efficiency actions by requiring disclosure alongside financial reporting in company's or LLP's annual reports
Disclosure method	Dedicated website to allow comparisons between participants	Within the directors' report (or energy and carbon report for LLPs) published by Companies House
Frequency of reporting	Every 4 years (plus proposed annual update on progress against goals)	Annual
Focus of reporting	Results of ESOS audit plus action taken against recommendations	Specified energy consumption and carbon emissions
Scope of reporting	Energy use under the financial control of the organisation (direct use of electricity and other fuels in buildings, transport and industrial processes, plus grey fleet travel that is paid for by the organisation)	Quoted companies required to report global scope 1 and scope 2 carbon emissions and underlying energy use, while large unquoted businesses are required to report on UK energy use as far as they relate to purchased electricity, gas and transport and the resulting carbon emissions.

Aligning SECR and ESOS requirements

It is important to note that the proposal set out above requiring reporting and public disclosure through ESOS would not duplicate the requirements of SECR.

Currently most, but not all ESOS participants are also covered by SECR, as SECR does not cover organisations that are not registered in the UK and there are also some other differences between the qualification criteria for the two schemes, as set out in Figure 2 below. Some ESOS participants are therefore not currently covered by any reporting requirement as they are not included in SECR. Extending public reporting to ESOS participants will deliver additional disclosure benefits to ESOS participants and allow greater alignment between the two schemes as called for by the Committee on Climate Change (CCC) in their recent report Policies for the Sixth Carbon Budget and Net Zero[52].

The information that companies are currently required to report in SECR is also limited to consumption and reporting data. It does not include information about ESOS audits and recommendations identified, although businesses may wish to draw on these when reporting under energy efficiency action required by SECR.

The format of ESOS reporting will also facilitate direct comparison between organisations in a way that is not made possible through SECR reporting, because SECR requires reporting alongside the company's existing financial reporting and does not require this data to be collected centrally.

In recognition of the potential overlap between the two schemes, we will aim to reduce the administrative burdens where possible. The disclosure information required for ESOS would simply be replicating information that should already be found in the ESOS report, so would not require any additional data gathering or analysis.

We recognise that there have been some calls that ESOS and SECR requirements should be merged together but we think this would be to the detriment of both schemes. The SECR reporting requirement in companies' annual reports provides visibility and enables energy/carbon performance to be aligned with both financial and operational performance, bringing energy and carbon reporting in line with 'core business'. Inclusion of SECR information in the directors' report increases the prominence and salience of carbon emissions and energy efficiency at the executive level, while providing easy access to such information for investors and other stakeholders. As an annual reporting requirement, SECR provides an opportunity for organisations to communicate their energy performance in line with their financial performance and present energy as a key business asset with impact on its operations and productivity, alongside its impact on climate change. SECR is very much aligned with wider calls for greater corporate transparency on climate change impacts, such as TCFD, with annual reports considered as the key reporting vehicle, reaching the widest range of stakeholders and users of such information.

However, the use of annual financial reports for energy and carbon disclosure has its limitations and the risk of these reports becoming a repository for information beyond their intended use needs to be carefully managed. Very detailed information on energy management, such as the information contained in ESOS reports, is too detailed for disclosure in company's annual reports. Separate public reporting under ESOS would give SECR data

[52] Policies for the Sixth Carbon Budget and Net Zero, CCC, December 2020

additional context, allowing businesses to set out their wider energy management strategy, including energy efficiency targets and report on progress.

We have however identified a number of ways of improving the alignment between the two schemes. Currently large businesses are defined by different size thresholds in ESOS and SECR and the two schemes also cover different types of business. This creates a situation where the types of businesses covered by ESOS are wider, but the size threshold used is narrower, meaning that some businesses are only covered by ESOS, some are only covered by SECR and some are covered by both. This creates complexity within the policy landscape and confusion for businesses. It is not within the scope of this consultation to make changes to SECR, but we propose to make changes to ESOS to better align with SECR.

Figure 2: Qualification criteria for ESOS and SECR

	ESOS	SECR
Type of organisation covered	UK undertakings Overseas undertakings with a UK registered establishment	Quoted UK companies Large unquoted UK companies (including charitable companies) Large UK Limited Liability Partnerships (LLPs)
Size criteria	Any UK undertaking that either: - employs 250 or more people, or - has an annual turnover in excess of £44 million, and an annual balance sheet total in excess of £38 million Or an overseas undertaking with a UK registered establishment which has 250 or more UK employees (paying income tax in the UK)	Any of the above that meets two or more of the following criteria: - Number of employees 250 or more - Turnover £36 million or more (or gross income for charitable companies) - Balance sheet total £18 million or more
Requirements around corporate groups	Organisations which do not meet the size thresholds above must still take part in ESOS if they are part of a corporate group which contains an undertaking that meets either of the above conditions	Only organisations that meet the size threshold are required to participate – SMEs in their corporate groups do not need to comply
Exemptions for public sector	Large undertakings are currently exempt from ESOS if they fall under the Public Contract Regulations	Organisations which undertake public, or not for profit activities as registered companies or companies/LLPs owned by universities, academies or NHS Trusts may fall within the scope of SECR, but organisations defined as a public body are not required to report under the SECR framework at an organisational level

The reason that the turnover and balance sheet levels were set as they currently are for ESOS relates to the fact that the scheme was designed to comply with the Energy Efficiency Directive Article 8, so these levels were originally set in euros and amended to the corresponding figure in pounds following EU exit. There is no longer any particular reason to continue using these thresholds, providing us with an opportunity to align the thresholds with those commonly used for financial reporting as set out in the Companies Act 2006 and applied for the purposes of SECR reporting.

We therefore consider it appropriate to change ESOS thresholds to match SECR, so that businesses would be in scope of ESOS if they meet at least two of the following criteria: they have at least 250 employees or have a balance sheet of £18 million or turnover of £36 million. Or (as currently the case under ESOS) are part of a group that contains a large business.

Changing the qualification criteria is likely to result in a small number of large undertakings becoming ESOS-obligated for the first time. However, we expect that large enterprises currently covered by SECR but not ESOS will already be measuring their energy use and reporting on their energy efficiency actions and should therefore have processes in place that they can draw on to comply with ESOS.

SECR was designed to align with the ESOS requirements as far as possible, using similar definitions of energy for large unquoted companies, in particular the definition of transport, and requiring companies to disclose any energy efficiency action taken in a financial year, providing an opportunity for companies to draw on their ESOS audits and report annually on progress in implementing their ESOS recommendations and improving their energy efficiency more generally.

Data on energy consumption relating to purchased electricity and gas, as well as data on transport that is prepared for SECR can be used as part of business' ESOS audits, although energy intensity figures collated as part of SECR reporting may need to be considered in the context of the wider ESOS scope of energy.

The changes set out in this chapter aim to encourage ESOS participants to take action on their ESOS report as a result of pressure from public disclosure of ESOS data, whilst ensuring that ESOS disclosure requirements align as much as possible with those relating to SECR and do not represent an increase in reporting burdens.

Consultation questions

20. **Do you agree with the proposal to require participants to set a target or action plan and report on progress annually?**

21. **Do you agree that additional ESOS data should be collected for the purpose of compliance monitoring and enforcement?**

22. **Do you agree with the proposal to require public disclosure of ESOS data as outlined above?**

23. **Do you agree that the qualification criteria for ESOS and SECR should be aligned as set out above?**

Chapter 5: Widening participation in ESOS

Previous chapters have looked at approaches to increasing take up of ESOS recommendations by existing participants. This chapter looks at the scope for extending ESOS to a significantly wider set of participants, to increase the energy savings and carbon reductions that can be achieved through ESOS as a scheme. We set out three potential options here and ask participants for views, but do not present a recommended option. As such this chapter does not form part of the central consultation proposal and options would relate to changes in a later phase of the scheme.

In the effort to meet net zero targets and reduce greenhouse gas emissions all UK businesses have a part to play. Currently, the ESOS scheme only applies to large businesses and their corporate groups, meaning Small and Medium-Sized Enterprises (SMEs) are only subject to ESOS if they are part of a corporate group with a large corporation. However, large businesses only account for 44% of business energy use and so excluding SMEs from ESOS also excludes a high proportion of total UK business energy use from the scheme.

While some SME organisations that are part of a large corporate group are already subject to ESOS audits, the ESOS evaluation exercise produced limited information on how ESOS has affected SMEs included within the scheme, due to difficulties identifying the relevant subsidiaries from group-level reports. However, we expect that most businesses in the SME sector are not currently subject to energy audit requirements. Bringing smaller organisations into the ESOS scheme would not only benefit these businesses through reduced energy bills, but the UK as a whole as we continue to work towards net zero.

The original rationale for introducing ESOS was to address the barrier of businesses having insufficient information to allow them to identify cost-effective energy efficiency opportunities. Existing research on the value of energy audits in the SME sector points to significant benefits, such as supporting their competitiveness and growth, and suggests that energy audits that provide tailor-made recommendations are an effective first step towards energy efficiency improvements in the SME sector[53]. FSB research found that 90% of FSB small businesses wanted to be energy efficient with 86% acknowledging the direct benefits of energy efficiency.[54]

ESOS is designed to target large businesses because they are likely to have a higher energy consumption per business than smaller organisations. Despite only being 0.1% of the UK business population in 2019, large businesses account for 44% of business energy use[55]. But the size of an organisation is not always proportionate to its energy consumption. Within the SME sector, Medium-Sized Enterprises (MEs)[56] account for a greater proportion of energy use per business than small enterprises. MEs make up only 0.6% of the UK business population (with small enterprises making up the remaining 99.3% of businesses) but are responsible for around 15% of business energy use[57], meaning that on average MEs have a much higher consumption of energy per organisation than small enterprises. Some MEs may in fact have

[53] How energy audits promote SMEs' energy efficiency investment, European Investment Bank, February 2019 https://www.eib.org/attachments/efs/economics_working_paper_2019_02_en.pdf
[54] https://www.fsb.org.uk/static/637791a4-74df-4036-b8ec3bd52ee86cf9/The-Price-of-Power-Report.pdf
[55] This figure only includes emissions from building energy consumption
[56] Businesses which satisfy two or more of the following requirements: a turnover of above £10.2 million and not more than £36 million, a balance sheet total of above £5.1 million and not more than £18 million, above 50 employees and no more than 250 employees. https://www.legislation.gov.uk/ukpga/2006/46/section/465
[57] This figure only includes emissions from building energy consumption

energy consumption equal to, or higher than many current ESOS participants that are large businesses, and this is particularly likely to be the case for organisations using industrial processes or with significant transport fleets. Extending ESOS to MEs could therefore allow these organisations to benefit from participation and overcome the information barrier to engaging with energy efficiency.

Whilst it is estimated that the average SME could reduce its energy bill by 18-25% by installing energy efficiency measures, with an average payback of less than 1.5 years, SMEs need support and information to increase their engagement with energy efficiency.[58] The dynamic makeup of the sector means that a one-size-fits all approach would not work[59] or lead to more effective uptake of energy efficiency measures. Warwick Business School found that MEs are more likely than small or micro businesses to have formalised aspects of environmental management and to have some sort of environmental mission or policy and are therefore more likely to have the resources and time to engage with an energy audit process[60]. It is therefore being proposed that the ESOS scheme is only extended to include MEs.

We are therefore interested in views on extending ESOS to all medium sized enterprises, or on extension to a subset of those MEs considered most likely to benefit from the scheme. The options we are considering to extend ESOS to additional participants are:

- Extending ESOS to all Medium-Sized Enterprises.
- Extending ESOS to Medium-Sized Enterprises with high energy consumption, using an energy consumption threshold below which MEs would not be required to participate.
- Extending ESOS to all industrial Medium-Sized Enterprises.

When extending ESOS to MEs, we do not propose to extend corporate group rules in the same way that they are applied to large enterprises. Where a corporate group consists entirely of MEs and small businesses, only the MEs would be required to comply with ESOS.

Although these proposals do not form part of the core proposals for strengthening ESOS set out earlier in this consultation, we are seeking views on these three possible approaches to extending ESOS and welcome feedback.

Extending to Medium-Sized Enterprises

Extending ESOS to MEs could produce significant benefits in terms of reduced carbon emissions and reduced energy costs. However, extending ESOS to all MEs would increase the number of participating organisations by approximately 30,000[61] which would be likely to increase both audit and enforcement costs significantly. This would also create a much larger demand for ESOS assessors, which the current market may not be able to meet and exacerbate the current 4-yearly distortion of the energy assessor market created by ESOS compliance cycles, as discussed in Chapter 2. The increase in enforcement costs combined with the lower potential for savings in some MEs may mean that that extending ESOS to all

[58] https://www.fsb.org.uk/static/637791a4-74df-4036-b8ec3bd52ee86cf9/The-Price-of-Power-Report.pdf
[59] ibid
[60] ibid
[61] Exact figures are difficult to estimate because of a lack of data on the number of MEs currently required to comply with ESOS as part of a corporate group. There were around 40,000 businesses covered by ESOS in Phase 2, of which approximately 11,500 were large and the rest were SMEs but we have no data on what proportion were MEs. There are approximately 38,000 MEs in the UK

MEs would not result in a proportionate increase in benefits from the scheme in comparison with increased costs.

In addition, the ESOS evaluation research identified that office-based organisations that were close to the 250-employee threshold for large businesses (or below this but participating on the basis of high turnover) were among those least likely to demonstrate an early impact from ESOS. This may be because these organisations had both low energy consumption and limited control over their ability to install energy efficiency measures due to lease terms. These factors point to the fact that office-based MEs and/or those with low energy consumption may benefit less from ESOS than other MEs. We are therefore considering limiting the extension to those MEs most likely to benefit from ESOS, in order to improve the cost to benefit ratio. However, this would introduce complications to the scheme and it may be more difficult to set appropriate qualification criteria compared to the simpler approach of including all MEs.

Energy consumption threshold

Extending ESOS to MEs based on an energy consumption threshold could ensure that ESOS is targeted at MEs most likely to benefit and would also mitigate the impact on the cost of audits and the number of assessors. According to the Carbon Trust concern among SMEs about energy bills has risen from 46% in 2016 to 67% in 2019. Including MEs based on their energy consumption would ensure that those businesses with higher energy bills are provided with tailored information and recommendations that could assist them to lower their energy bills.

There is an existing energy consumption threshold within ESOS of 40MWh, below which organisations are still required to carry out an ESOS report, but this does not need to be signed off by an ESOS lead assessor. This threshold is consistent with light touch requirements for other government schemes such as SECR. However, this may not be sufficient to protect MEs, which have fewer resources than the large enterprises currently targeted by ESOS. Based on Ofgem figures, this threshold of 40MWh is approximately equivalent to the energy consumption of 2.5 medium-sized homes[62]. Most of the Medium-Sized Enterprises are therefore not likely to fall below this threshold. Finding another, more suitable energy consumption threshold may be challenging as there may not be an obvious point at which to draw the line.

Another way to define the energy consumption threshold is to look at other EU countries which have chosen to include SMEs within the scope of their equivalent schemes based on their energy consumption. In the Czech Republic, any enterprise whose energy consumption exceeds 35,000GJ/year (9,722 MWh) is included in their equivalent scheme to ESOS and within Romania's scheme any company or site which has an annual energy consumption greater than 1,000 toe (11,630 MWh) must complete an annual energy audit and employ an approved energy manager. Similar thresholds have also been implemented for equivalent schemes in Italy and Portugal[63].

Using a consumption threshold could ensure that ESOS is extended to those organisations most likely to benefit. However, using a consumption threshold could introduce additional challenges to enforcement and compliance, as it may be more difficult to identify which organisations are required to comply than using a simple business size principle. One way of

[62] https://www.ofgem.gov.uk/gas/retail-market/monitoring-data-and-statistics/typical-domestic-consumption-values
[63] https://ec.europa.eu/energy/sites/default/files/documents/eed-art8-implementation-study_task12_report_final-approved.pdf

making this simpler could be to have a consumption threshold based on electricity and gas use only, but this could exclude organisations with large transport fleets. We therefore welcome views on whether the use of a consumption threshold for MEs is appropriate, as well as suggestions on how we might go about defining a suitable threshold.

Extending ESOS to Industrial Medium-Sized Enterprises (MEs)

An alternative approach to targeting the MEs most likely to benefit from ESOS and limiting the costs of extending the scheme could be to extend ESOS specifically to MEs in industry. Research outlined below suggests that industrial MEs may be more likely to take up energy efficiency measures than non-industrial MEs, and energy efficiency may need to be deployed early in this sector as other potential decarbonisation measures for industry are at an early stage of development.

Whilst there are current and proposed regulations on energy use in buildings that cover SMEs as well as large businesses, such as the PRS Regulations and the proposed performance-based rating for buildings over 1000m2, there is currently no regulation that covers industrial process energy use by SMEs. Existing policy targeting energy efficiency in industry currently focuses mainly on industrial clusters, rather than the small and dispersed sites industry sector, so extending ESOS to MEs in industry could help address this gap.

Although we do not have specific evidence on the energy efficiency potential of industrial MEs, we have some indication from broader research. Recent data suggests that the proportion of ME energy use consumed by factories is 47% (10 TWh) of electricity use and 40% (9 TWh) of gas use[64], so including industrial MEs in ESOS would cover a significant proportion of total ME consumption.

A 2014 study found evidence that suggested industrial SMEs may be more likely to take up energy efficiency measures than non-industrial SMEs when provided with appropriate information, suggesting that ESOS could be more beneficial for this sector. After providing SMEs in the manufacturing sector with four or more opportunities for energy efficiency, 29% implemented at least one measure, compared to 18% in the non-manufacturing sector[65]. Meanwhile, of all the opportunities identified in the manufacturing sector, 17% in total were implemented, compared to 11% in the non-manufacturing sector. This might be partly due to lower payback periods, as the same study found that energy efficiency opportunities for SMEs in the manufacturing sector have a lower payback period (1.4 years) than the non-manufacturing sector (2.5 years). This further supports the suggestion that including specifically industrial MEs in ESOS could be an effective way of targeting organisations most likely to benefit from the scheme.

This consultation also seeks to strengthen our evidence base on the effectiveness of extending ESOS to MEs and industrial MEs in particular. We are interested in views and evidence on whether a lack of information on opportunities is a significant barrier to MEs adopting energy efficiency measures, whether extending ESOS audits to MEs could address this and the likely proportion of industrial MEs that may implement energy efficiency measures following an audit. In addition to better understanding the evidence base on extending to industrial MEs, we would

[64] Non-Domestic National Energy Efficiency Data (ND-NEED) Framework 2020 (England and Wales) https://www.gov.uk/government/statistics/non-domestic-national-energy-efficiency-data-framework-nd-need-2020
[65] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/392908/Barriers_to_Energy_Efficiency_FINAL_2014-12-10.pdf

also like to find out more about any barriers to delivery. For example, it may be difficult to clearly identify industrial MEs using SIC (Standard Industrial Classification) codes as these may not always be reflective of the extent to which industrial processes are used.

We therefore welcome views on whether to specifically target industrial MEs when extending ESOS, and what might be an appropriate way to ensure that these organisations can be effectively identified.

Implications of including MEs within ESOS

We are aware of the need to protect MEs against disproportionate costs arising through ESOS if they were to be included in the scheme. Costs could arise both from commissioning the audit itself and from general administrative burdens related to compliance. We would need to consider the likely cost of audits to MEs, and whether these would be considered reasonable, and the impact of the cost of audits on the length of the payback period. We welcome further evidence to understand what the cost implications would be if MEs, or a subset of MEs, were to participate in ESOS.

We recognise that some MEs might find it more challenging to comply with ESOS and implement recommendations due to constraints on time and resources. In a recent survey, one of the biggest barriers to pro-environmental behaviour cited by small businesses was time (45%), with only 27% of businesses citing the cost of action as a barrier to taking action.[66] In order to protect MEs additional support could be included as part of ESOS or more generally provided to SMEs. Support could be in the form of technical assistance to support participants to act on recommendations, combining audits with a pre-made investment decision as an 'add on', the creation of public easily accessible platforms providing advice, or low interest loans for implementation. We would look to ensure that ESOS aligns with other SME energy efficiency schemes now and in the future and that those schemes could make use of ESOS audits in conjunction with any future financial support schemes for SMEs to identify likely investment potential.

The core proposals outlined in the first 4 chapters of this consultation aim to strengthen the current scheme to make it more effective in driving energy efficiency and improve the benefits to existing participants. We therefore propose waiting until these improvements have been made to the scheme before extending it to a further set of participants. At this stage we are therefore asking for feedback on the proposed approaches detailed above and evidence on how successful such changes to the scheme are likely to be in increasing uptake of energy efficiency measures in Medium-Sized Enterprises.

Consultation questions

24. Do you agree in principle that ESOS should be extended to smaller enterprises (either to all Medium-Sized Enterprises, or to a subset of Medium-Sized Enterprises)? Are there any concerns or risks with this approach?

[66] https://www.researchgate.net/profile/Laura-Mcguire-2/publication/312149759_Mapping_our_underlying_cognitions_and_emotions_about_good_environmental_behavior_Why_we_fail_to_act_despite_the_best_of_intentions/links/5a12ccf8458515cc5aa9f442/Mapping-our-underlying-cognitions-and-emotions-about-good-environmental-behavior-Why-we-fail-to-act-despite-the-best-of-intentions.pdf

25. **Is a lack of information on opportunities for energy efficiency a significant barrier to action for Medium-Sized Enterprises?**

26. **To what extent do Medium-Sized Enterprises already have a system or approach in place to monitor and improve their energy efficiency? (This could include energy managers or consultants, smart meters, audits, sector benchmarking, or energy management systems like ISO50001)**

27. **How could ESOS audits add value in improving energy efficiency in these organisations (Medium-Sized Enterprises or a subset of Medium-Sized Enterprises) – beyond what is already being done? How might the effectiveness of these audits differ between buildings and industrial processes? How will the value added by ESOS proposals differ for different sub-sectors of business (e.g. services, and energy-intensive vs non energy-intensive industry)?**

28. **If including a consumption threshold for including Medium-Sized Enterprises in ESOS, how might it best be set?**

29. **Of the three approaches to extending ESOS set out in this consultation (extending to all Medium-Sized Enterprises, extending to high-consuming Medium-Sized Enterprises using a consumption threshold and extending to industrial Medium-Sized Enterprises only), which do you think would be the most appropriate?**

30. **What alternatives might there be for improving energy efficiency specifically in industrial Medium-Sized Enterprises, other than extending ESOS?**

Chapter 6: Stimulating action based on ESOS reports

The measures outlined in Chapter 1-3 are designed to ensure that ESOS provides the most effective information to participants on energy efficiency, to encourage uptake of energy efficiency measures. The introduction of reporting and disclosure requirements discussed in Chapter 4 is also designed to provide a greater impetus to participants to carry out their ESOS recommendations. This chapter looks at further, more structured options for increasing the take up of ESOS recommendations and asks participants for views but does not present a recommended option. As with Chapter 5, this chapter does not form part of the central consultation proposal and options would relate to changes being considered for later introduction to the scheme, which could potentially be for Phase 4 with a compliance deadline in 2027.

As set out in the introduction, there is evidence that take-up of ESOS recommendations could be significantly increased. In the context of the UK's net zero commitment it is increasingly important that every part of society does its bit to contribute to carbon emissions reductions. Energy efficiency measures such as those recommended in ESOS are one of the most cost-effective ways to reduce carbon emissions and should pay for themselves within the medium to long term. However, as set out in the introduction, there are various barriers to organisations taking up ESOS recommendations.

There have been some calls for the uptake of ESOS recommendations to be made mandatory, to ensure that action is taken following ESOS audits. This chapter looks at the pros and cons of this approach and alternative approaches to encouraging uptake of ESOS recommendations, and asks for respondent views, and supporting evidence, on how best to approach this issue.

The potential for making uptake of recommendations mandatory through ESOS

Currently there is a wide discrepancy among businesses between best and worst practice in relation to energy management and investment in energy efficiency. Mandating the implementation of ESOS recommendations would aim to bring all large businesses up to a minimum level of energy efficiency investment and energy management whilst ensuring that this pays for itself through energy bill savings. The argument made for requiring ESOS participants to carry out their recommendations is that in the absence of explicit regulation, overcoming the various barriers to action may be difficult. ESOS recommendations are seen to be low-hanging fruit where mandating action could reduce carbon emissions quickly and cost-effectively from large businesses. This is an approach that was suggested in the Post-Implementation Review of ESOS and also recommended by the BEIS Select Committee July 2019 report. While introducing the improvements to ESOS set out in Chapters 1-4 would be necessary to lay the groundwork for mandating action, to ensure that audits are high quality, tackle net zero considerations and are appropriately reported on, this Chapter seeks views on whether longer-term, mandating the implementation of ESOS recommendations will have a role to play in overcoming barriers to implementing energy efficiency improvements.

The simplest approach to mandating action would be to require participants to carry out all ESOS recommendations which are estimated to pay back within a certain time period – suggested as 3 years initially with the option to increase to 7 years in future phases in line with PRS Regulations. As this could be seen as constraining businesses to particular technology options and not allowing businesses freedom to choose the best solution for them, an alternative option could be to allow businesses to meet their ESOS obligation by carrying out alternative actions with the same level of savings as those recommendations made by the ESOS assessor that have a 3-year payback or less. However, there are several challenges with this approach. Any mandatory requirement as part of ESOS would need to be effectively designed to ensure that legislation is effective at driving the required behaviour whilst minimising the costs to businesses of complying and the costs of monitoring and enforcing the scheme.

As discussed in Chapters 1 and 2 there are already concerns about the consistency and quality of ESOS reports which the proposed changes are looking to address. In particular, for regulatory purposes there would need to be greater confidence in the payback periods that are quoted in ESOS reports. Even where payback periods have been estimated in line within good practice, or using some kind of calculator as discussed in Chapter 1, a detailed quotation for works may subsequently identify greater costs for works than originally estimated by the assessor. Using payback periods to determine what works are required to take place for compliance has already created challenges in the context of PRS Regulations.

There is also scope for disputes between participants and ESOS assessors if payback periods are deemed incorrect or if predicted savings do not occur. This could require some kind of dispute mechanism and may increase the cost of audits if assessor insurance costs are higher to cover the risk of legal challenges.

There is a further concern that the participant commissioning an ESOS audit may put pressure on an ESOS auditor to water down or exclude certain recommendations within the ESOS report, or may conceal information from the assessor that would lead to particular recommendations. Conversely, ESOS assessors may use ESOS to push particular energy savings measures which they or their company can then profit from, rather than provide a balanced assessment of options, which is something that has already been occasionally observed in Environment Agency audits.

As a result of these considerations, enforcement costs would likely increase as regulators would need to monitor, audit and enforce the take up of ESOS recommendations on a measure-by-measure basis, as well as need more stringent monitoring of ESOS report quality to prevent gaming, and more site visits may be needed to confirm that recommendations have not been missed. Two types of audit may need to be carried out at different points, one to check the ESOS report and one to check that works have been carried out, as participants audited early in a phase would be unlikely to have carried out the works. Mandating the uptake of recommendations by the end of a phase could also create distortions in the energy efficiency market similar to those discussed in Chapter 2 in the energy assessor market, if all participants tried to commission all of their recommended energy efficiency works at the end of a phase.

Currently, it is difficult to estimate the likely benefits to participants in terms of reduced UK carbon emissions from requiring organisations to carry out ESOS recommendations; whilst as mentioned above there is significant potential, with pay-backs below 7 years, that exists in businesses to reduce their energy use and emissions, some of this should be captured by a number of existing and planned policies. The wider context in which ESOS shares a common goal of driving energy efficiency behaviour with other policies and regulations, such as the

proposed performance-based rating scheme, PRS minimum energy efficiency standard regulations and CCAs, would also need to be considered to identify gaps where mandating implementation of ESOS measures would deliver additional savings.

An alternative approach to mandating uptake of recommendations through ESOS is to retain the current function of ESOS as an information tool and introduce separate legislation that draws on ESOS if necessary. For example, the consultation on introducing a performance-based policy for large commercial and industrial buildings suggested that longer-term, a minimum rating requirement could be set to improve progress towards a net zero building. This could be linked to ESOS, so that buildings not meeting the minimum standard are required to carry out any recommendations on their ESOS report. Alternatively, buildings not showing a consistent improvement in their rating over time could be required to carry out their ESOS recommendations.

We are therefore not considering mandating implementation of ESOS recommendations as a central option within this consultation, though we would be interested to hear views as to whether this should be considered, including the use of payback tests of 3 and 7 years; and how best to align with other regulations planned or in place across the UK, particularly for owners or tenants of buildings. Mandation could potentially be at a later point, such as ESOS Phase 4, and we would also be interested in any suggestions for overcoming the potential obstacles for regulating in the way set out above.

Other approaches to mandating action through ESOS

Requiring participants to demonstrate ongoing improvements in performance

A lighter touch approach to requiring ESOS participants to take action on energy efficiency could be to simply require participants to make ongoing improvements in energy performance. This would be measured in terms of improvements in the energy intensity metric adopted by the organisation. This could be required as a year-on-year improvement, or an improvement from one phase of ESOS to the next. Organisations that do not achieve an improvement would be required to justify the reason for the failure, for example that the reduction was due to taking on a new subsidiary that is less energy efficient than the existing organisation.

An additional option could be to require organisations to justify why they have not taken up the recommended actions in their ESOS report, or to require that where organisations have set themselves a target or action plan (as discussed in Chapter 4) this is binding on the organisation, unless they can provide evidence for why they have been unable to achieve it.

The advantage of this approach is that it is light touch and relatively easy to enforce. It does not require organisations to carry out any specific recommendations, so implementation remains flexible for the organisation.

The disadvantage of this approach is that it leaves organisations open to make very minimal improvements to energy efficiency, especially if the period set is every phase rather than every year.

Organisations could alternatively be required to make a certain percentage of the savings identified in their ESOS report – however this introduces similar disadvantages to mandating recommendations in making the organisation’s legal requirements dependent on a report by a third party.

Another alternative could be requiring organisations to make a set percentage improvement compared to their baseline intensity metric or baseline total consumption, but this may be considered unfair by organisations who have already taken substantial energy efficiency investment to date compared to those who have made little early investment.

Requiring energy management action

One of the advantages of ESOS compared to other energy efficiency regulation is that it looks not just at capital improvement works but also changes to processes and behaviours. However, it is more difficult to accurately assess the payback periods for such changes and therefore these actions may be difficult to regulate under the payback period approach set out above.

An alternative could be to require all ESOS participants to take particular actions to improve energy management processes and/or improve energy data management. These could include:

- Requiring ESOS participants to achieve some kind of energy management certification that shows they meet minimum standards for energy management practices.
- Requiring a member of staff within the organisation to be trained to a particular energy management standard.
- Linking behaviour changes to the achievement of minimum energy efficiency standards or certifications, such as the installation of submetering, monitoring and targeting equipment and/or smart meters where these are not currently in use in England, and in Wales and Scotland where smart meter policy is reserved.

Using existing or new energy management standards could be used as a path to compliance with this requirement. There is currently a new ISO 50005 standard in development which provides guidelines for a phased implementation of an energy management system. Under this standard, organisations are rated from level 1-4 against 12 different energy management aspects. We could investigate the possibility of requiring ESOS participants initially to be assessed under this standard, and in future phases to achieve a particular level of competency against each aspect.

This approach could also be combined with either a payback period approach for capital works or a requirement to continuously improve energy efficiency.

ESOS recommendations used in support of other government policy

ESOS may be best used as a supporting policy for other government policy. ESOS reports provide organisations with tailored recommendations for improving their energy consumption and these could be used in two ways.

ESOS reports could be used as materials for organisations applying for government funding as evidence that there is potential for energy efficiency savings to be made. This could be appropriate for schemes where an existing survey or audit would be a useful piece of evidence in demonstrating eligibility. This could even extend to using a voluntary form of ESOS audit for SMEs looking to apply for support under any future support scheme, in order to demonstrate the level of savings that can be achieved.

Going one step further, carrying out a certain level of ESOS recommendations could also be used as a prerequisite for applying for certain types of government support. This would be similar to the approach previously taken with the Feed-in Tariff to give preferential rates to properties with better energy efficiency (in that case judged by the EPC rating of the property). It would be appropriate to expect organisations applying for government support, particularly where this is energy related, to have already demonstrated commitment to reducing their energy use and carbon emissions.

Another way in which ESOS could dovetail with other policy might be as a regulatory requirement that could be waived for good performance in other schemes. For example, buildings that consistently score very high performance-based ratings could be exempt from the requirement to have a site audit under ESOS. This would be appropriate because such high-performing buildings are least likely to identify further savings through ESOS, so would reduce the administrative burden for organisations that are already performing to a high standard.

Non-regulatory options

Encouraging uptake of ISO 50001

Evidence from the ESOS evaluation suggests that one of the key contexts associated with higher levels of implementation of ESOS-recommended energy and fuel efficiency measures was where certification to ISO 50001 was newly achieved as a result of ESOS. However, only 5.7% of organisations chose this compliance route in Phase 1 and there was no marked increase in Phase 2 where 6.23% of organisations chose this compliance route. Increasing take-up of ISO 50001 as a compliance route may be effective in driving more organisations to take action and continuously improve their performance.

In order to encourage more organisations to comply via ISO 50001, we propose adopting some of the measures implemented by Germany, which has seen an order of magnitude more ISO certifications than any other country. These include step-wise implementation support via platforms that provide a number of tools and guide leading companies step by step through the process; advice and first certification support for the first time a business seeks certification; and sector-specific guidance which goes beyond the general guidance provided by ISO.

We also propose amending the ESOS guidance to sell the benefits of ISO 50001 more strongly and ensure there are no barriers within any revised ESOS process to complying via this route. However, at this stage we do not propose taking the route that some other countries have taken to subsidise ISO 50001 certification for example through tax breaks, although we would welcome views on such an approach, particularly for smaller organisations.

Other voluntary schemes

There may be scope to develop other non-regulatory options to encourage uptake of recommendations, building on approaches taken in other sectors.

Voluntary commitments, targets or agreements at the level of individual business sectors could be one approach to stimulating action and would require working with sectoral organisations to understand the potential in this area. Working more closely with existing business sustainability organisations such as those mentioned in Chapter 3 and promoting ESOS as a tool to engage

businesses could also be effective. We would be interested to hear from both business sustainability and sectoral organisations in relation to the opportunities in this area.

Voluntary schemes often work best if they target a small and relatively homogenous sector. For example, an initiative to increase the proportion of women on boards targeted the relatively small population of specialist recruitment organisations for board positions[67]. We would be interested to hear from participants if there are any similar ways in which we could target engagement with ESOS in a similar way, for example looking at better educating board members or CFOs on the benefits of carrying out ESOS recommendations.

Another non-regulatory approach that has been taken in other sectors is to introduce a quality mark of some kind. For ESOS this could take the form of an ESOS best practice mark that organisations could be assessed against. Some organisations are already advertising that they are ESOS compliant as part of their sustainability messaging, such as Premier League football clubs surveyed for the Premier League Sustainability Table[68]. However, this simply means that they have carried out an ESOS report. But this does suggest that being able to show that they are carrying out ESOS best practice may be attractive to organisations to show their commitment to sustainability.

Consultation questions

31. **Do you think that we should pursue the option of mandating ESOS participants to take action? Are there pros, cons and/or risks not identified here?**

32. **Which approach would be most appropriate of those set out here (requiring uptake of all recommendations that meet a payback period criteria, a requirement for ongoing reductions in energy use and/or a requirement to take action on energy management practices)?**

33. **Do you think we should pursue alternatives to regulation to increase take up of ESOS recommendations and are there further options not discussed here?**

34. **Do you agree with the suggestions to encourage the uptake of ISO 50001 as a compliance route? Are there further ways in which we might encourage uptake?**

[67] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/286342/bis-14-640-women-on-boards-voluntary-code-for-executive-search-firms-taking-the-next-step-march-2014.pdf
[68] https://www.sportpositiveleagues.com/pl-2020/

Summary of consultation questions

A full list of the questions within this consultation is provided below:

Introduction

1. **What is a fair and proportionate way of dealing with the small number of ESOS site audits which may have already been carried out under the existing audit requirements if we make subsequent changes to the Phase 3 compliance requirements?**

Chapter 1

2. **Do you agree with the general principle of making ESOS reporting more standardised, as set out above? Are there any aspects of this proposal you have concerns with?**

3. **Do you agree with a change to the de minimis exemption to up to 5% of total energy?**

4. **Do you agree an energy consumption threshold should be added for individual group, sites, process or fuel types? Is 40MWh appropriate or is there a more appropriate threshold?**

5. **Do you agree with the site sampling methodology proposed above?**

6. **Do you agree that ESOS reports should include an analysis of half hourly data where this data is readily available? What steps could Government take to support this?**

7. **Do you agree with the proposal to require that ESOS reports use an existing auditing standard such as ISO 50002 or EN 16247?**

8. **Do you agree with the proposals set out here to improve the information provided to participants on ESOS recommendations and how they are performing against an energy intensity metric?**

9. **Do you agree there should be an explicit focus on rating and improving energy management processes within ESOS?**

10. **Do you agree with the proposal to remove Display Energy Certificates and Green Deal Assessments as compliance routes for ESOS?**

Chapter 2

11. **Do you agree with the proposal to improve the processes to ensure ESOS assessors are appropriately trained and monitored and are there other issues that we should address in improving the ESOS process that relate to assessors?**

12. **Do you agree with the proposals set out here to encourage organisations to engage an ESOS assessor with appropriate skills and experience?**

13. **Do you think that we should make changes to the scheme to change the Qualification date or stagger phases for different sectors, or will the softer measures set out be sufficient to encourage more participants to comply earlier than the final compliance year?**

14. **Do you agree with the proposals to provide an ESOS recommendations template to improve the presentation of ESOS recommendations and the information provided on next steps?**

15. **Do you agree with the suggestions to provide better guidance on next steps in order to encourage uptake of recommendations and the requirement to share the ESOS report with subsidiaries?**

Chapter 3

16. **Do you agree that ESOS should include an assessment of actions needed to meet future net zero commitments, as set out here? If a net zero element is included as set out above how might this impact the cost of an ESOS audit?**

17. **Do you agree that this should include impacts on the electricity system as well as direct carbon/greenhouse gas emissions?**

18. **Do you think that the net zero element to ESOS should be included within the existing report structure or added as a separate reporting element?**

19. **Do you agree that government should set out a methodology for companies to include other net zero and climate aspects including adaptation in their audit if they wish to?**

Chapter 4

20. **Do you agree with the proposal to require participants to set a target or action plan and report on progress annually?**

21. **Do you agree that additional ESOS data should be collected for the purpose of compliance monitoring and enforcement?**

22. **Do you agree with the proposal to require public disclosure of ESOS data as outlined above?**

23. **Do you agree that the qualification criteria for ESOS and SECR should be aligned as set out above?**

Chapter 5

24. **Do you agree in principle that ESOS should be extended to smaller enterprises (either to all Medium-Sized Enterprises, or to a subset of Medium-Sized Enterprises)? Are there any concerns or risks with this approach?**

25. **Is a lack of information on opportunities for energy efficiency a significant barrier to action for Medium-Sized Enterprises?**

26. **To what extent do Medium-Sized Enterprises already have a system or approach in place to monitor and improve their energy efficiency? (This could**

include energy managers or consultants, smart meters, audits, sector benchmarking, or energy management systems like ISO50001)

27. **How could ESOS audits add value in improving energy efficiency in these organisations (Medium-Sized Enterprises or a subset of Medium-Sized Enterprises) – beyond what is already being done? How might the effectiveness of these audits differ between buildings and industrial processes? How will the value added by ESOS proposals differ for different sub-sectors of business (e.g. services, and energy-intensive vs non energy-intensive industry)?**

28. **If including a consumption threshold for including Medium-Sized Enterprises in ESOS, how might it best be set?**

29. **Of the three approaches to extending ESOS set out in this consultation (extending to all Medium-Sized Enterprises, extending to high-consuming Medium-Sized Enterprises using a consumption threshold and extending to industrial Medium-Sized Enterprises only), which do you think would be the most appropriate?**

30. **What alternatives might there be for improving energy efficiency specifically in industrial Medium-Sized Enterprises, other than extending ESOS?**

Chapter 6

31. **Do you think that we should pursue the option of mandating ESOS participants to take action? Are there pros, cons and/or risks not identified here?**

32. **Which approach would be most appropriate of those set out here (requiring uptake of all recommendations that meet a payback period criteria, a requirement for ongoing reductions in energy use and/or a requirement to take action on energy management practices)?**

33. **Do you think we should pursue alternatives to regulation to increase take up of ESOS recommendations and are there further options not discussed here?**

34. **Do you agree with the suggestions to encourage the uptake of ISO 50001 as a compliance route? Are there further ways in which we might encourage uptake?**

Next steps

The responses from this consultation will be used to inform the implementation of improvements to ESOS in future phases. The consultation will be open for 12 weeks and we will seek to publish a government response by the end of 2021.

Most of the changes proposed to the ESOS Regulations, subject to the outcome of this consultation, are being considered for implementation in Phase 3 (compliance deadline December 2023). This could result in the need for participants to make changes to their reporting from Phase 3 ESOS onwards. In this instance the proposed changes are being considered for introduction by the end of 2022 qualification date for Phase 3.

Some options may take longer to implement or to have the necessary time for parliamentary legislation and would potentially be in place for the Phase 4 ESOS report and any future phases.

Annex A: Current regulation and incentives covering business energy efficiency

The relevant current and proposed schemes and regulations are set out below. UK ETS, CCL, CCAs and SECR apply UK wide. Northern Ireland is due to publish a new Energy Strategy by the end of 2021, which may lead to a change in their arrangements.

Buildings

Private Rented Sector (PRS) Minimum Energy Efficiency Standards (MEES) (England and Wales): From April 2018, non-domestic properties can only be let on a new tenancy if the property has an EPC rating of E or higher. From April 2023 this requirement will cover all non-domestic privately rented properties. In 2019, we consulted on the Government's preferred option of increasing minimum energy efficiency standards to EPC B by 2030. The EPC B requirement was announced in the 2020 Energy White Paper, and we are currently consulting on proposals for implementation. Around 60% of business buildings are covered by the PRS MEES.

Owner-occupier Minimum Standards (England and Wales): We are reviewing options to introduce equivalent standards to cover the remaining 37% of non-domestic buildings which are owner-occupied.

The Assessment of Energy Performance of Non-domestic Buildings (Scotland)[69]: From September 2016 owners of non-domestic buildings have been required on point of sale or let of a property to undertake an assessment to produce an action plan which identifies targets for improvement of the carbon and energy performance and how these targets would be met through physical improvements to the property. Once an action plan is finalised, the owner can chose to improve or to defer the improvements by reporting operational energy ratings (via a DEC) on an annual basis. Buildings that meet energy standards equivalent to those introduced by the 2002 building regulations are exempt from this process.

Energy Performance Certificates (EPCs) (UK-wide, but exact requirements differ in England & Wales, Scotland and Northern Ireland): EPCs are a widely used measure of the energy performance of buildings in the non-domestic sector and are required when buildings are constructed or put up for sale or rent. Non-domestic EPCs include an A+ to G rating of the building's energy performance based on its modelled CO2 emissions. This considers the characteristics of the building (the fabric) and its services (such as heating, ventilation and lighting). They also include recommendations for improving the EPC rating. The EPC rating is used to set requirements under the PRS MEES.

Display Energy Certificates (DECs) (UK-wide, but exact requirements differ in England & Wales, Scotland and Northern Ireland): DECs provide participating organisations with an energy efficiency rating of their buildings from A-G based on their annual energy use compared to a relevant benchmark. This differs from an EPC because the rating is based on actual energy consumption as opposed to a model of the building's energy use based on the features

[69] https://www.gov.scot/publications/energy-performance-of-existing-non-domestic-buildings-information/

of the building. A DEC is also accompanied by an advisory report which contains recommendations for improving the building's energy performance. DECs are currently a possible compliance route for ESOS.

Performance-based ratings (England and Wales): We published a consultation in March 2021 on introducing mandatory in-use ratings for commercial and industrial buildings over 1000m2, based on their energy use and carbon performance. It is proposed to introduce this rating for offices first, followed by other sectors.

Small Business Energy Efficiency Scheme (SBEES) (England and Wales): This scheme aims to increase the uptake of energy efficiency measures through assisting SMEs to overcome barriers to energy efficiency. Following an earlier call for evidence, it was decided to commission research into the feasibility and design of a potential energy auction. This research has recently concluded, and we are considering these findings before concluding whether the scheme will take the form of an Energy Efficiency Auction or an Energy Company Obligation. We are hoping to consult on this later in 2021.

Boosting Access for SMEs to Energy Efficiency (BASEE) (England and Wales)[70]: The competition offered up to £6 million of funding for innovative solutions that encourage the uptake of energy efficiency by SMEs. The competition helps address some of the key market failures faced by SMEs such as the lack of information and resource, high transaction costs and difficulty accessing finance. It also seeks solutions that reduce transaction costs and introduce economies of scale for lenders and energy efficiency providers investing in small-scale energy efficiency.

Building regulations (England, similar principles apply in Wales, Scotland and Northern Ireland): New non-domestic buildings must meet the energy efficiency requirements of the Building Regulations 2010. This sets out minimum energy performance standards that must be met when a new non-domestic building is constructed. Where an existing building is renovated, for any thermal element (wall, floor or roof) of the building that either undergoes major renovations or where at least 50% of the surface area is renovated, the renovated thermal element is also covered by building regulations. Heating appliances and air conditioning that are installed or replaced must also meet building regulation standards. In January 2021 we launched a consultation on the Future Buildings Standard which provides a pathway to highly efficient non-domestic buildings that are zero carbon ready, better for the environment and fit for the future[71].

Transport

Electrification: There are no specific targets on private vehicle fleets, but there is a commitment to decarbonise transport by phasing out the sale of new petrol and diesel cars and vans by 2030 and, from 2035, all new cars and vans must be zero emissions at the tailpipe. Global initiatives such as EV100 are bringing together forward-looking companies who are committed to accelerating the transition to electric vehicles (EVs).

Vehicle incentives: The Government has committed a total of £582m for plug in vehicle grants for cars, vans, motorcycles and taxis up to 2022/23. The March 2020 Budget included the extension of favourable benefit in kind tax rates for zero emission vehicles out to 2025.

[70] https://www.gov.uk/government/publications/boosting-access-for-smes-to-energy-efficiency-basee-competition-winning-projects.
[71] https://www.gov.uk/government/consultations/the-future-buildings-standard.

Company car tax is 1% in 2021/22 and 2% in 2022/23 through to 2024/25 and all zero emission cars are exempt from vehicle excise duty (VED).

Charging infrastructure: £1.3 billion will be invested in accelerating the roll out of charging infrastructure over the next four years, targeting support on rapid chargepoints on motorways and major roads, and installing more on-street chargepoints near homes and workplaces. This targeted support, including the £400m Charging Infrastructure Investment Fund, will see thousands more electric vehicle charge-points installed across the UK.

Workplace charging: The Government is continuing to provide grant funding to support the installation of charge-points in the workplace. It has extended support for charge-point installation at homes, workplaces and on-street locations with £275 million funding allocated in the Spending Review on 25 November 2020.

Industry

UK Emissions Trading Scheme (ETS) (UK-wide): The UK ETS replaced the EU Emissions Trading System on the 1 January 2021 and was established to increase the climate ambition of the UK's carbon pricing policy. The scheme applies to energy intensive industries, the power generation sector and aviation, and is a cap-and-trade scheme. A cap is set on the total amount of certain greenhouse gases that can be emitted by sectors covered by the scheme. Within this cap, participants receive allowances which can be traded at an auction (primary market) or the secondary market. The cap is reduced over time to reduce emissions.

Climate Change Agreements (CCAs) (UK-wide): These are voluntary agreements entered into by organisations in sectors that are either high energy users or have significant international competition. Participants agree to meet an energy or carbon reduction target over a set period and in return are not charged the full Climate Change Levy (CCL) over that period The discount depends on fuel type but is generally 80-90%. If organisations fail to meet their target, there is a buy-out price for emissions/energy use above the target figure (the CCL discount remains if the necessary buy-out is paid by a specified date). Targets are negotiated by sectoral representatives.

Industrial Energy Transformation Fund (IETF)/Scottish IETF: This scheme supports investment in energy efficiency and low-carbon technologies by offering funding to businesses with high energy use. The scheme is split into two phases with Phase 2 having launched in 2021.

Businesses overall

Climate Change Levy (CCL) (UK-wide): Businesses are charged CCL on all energy purchased above a certain minimum threshold (4,397 kWh per month for gas, 1,000 kWh per month for electricity). For gas, the current rate is 0.4p/kWh (as compared to a unit cost of around 2p/kWh for medium to large businesses) and for electricity the rate is 0.8p/kWh (as compared to a unit cost of around 13p/kWh for medium to large businesses). It is intended that this additional levy on top of unit prices would encourage organisations to invest in reducing energy consumption, but no action is mandated.

Streamlined Energy and Carbon Reporting (SECR) (UK-wide): This scheme requires large or quoted UK-incorporated businesses to disclose in their annual reports, the specified annual

energy consumption and carbon emissions and key energy efficiency actions they have taken. This is primarily a disclosure requirement.

Taskforce on Climate-related Financial Disclosures (TCFD) (UK-wide): We consulted in March-May 2021 on making the TCFD aligned climate-related financial disclosures mandatory for the largest UK registered companies and LLPs. This is proposed primarily as a disclosure requirement.

Annex B: Example compliance template

ESOS compliance report for:

Registered name of the organisation if different to trading name above	
Companies House number(s) of organisations covered (where applicable)	
SIC code(s)	
Highest UK parent (and overseas where applicable)	
Details of any changes to corporate group since previous phase	
Board member signing off (signature, name, title and contact details)	
Confirmation that board member is an Executive Director for the highest UK parent, as registered with Companies House	

Corporate group structure covered by this ESOS report

[Insert organogram showing corporate group structure here]

Qualification based on	Number of employees/ turnover/balance sheet
Route(s) to ESOS compliance used	
Details of ESOS lead assessor and any other personnel involved in conducting site visits and/or completing the report	

Total energy consumption

End use	Utility	Energy consumption (kWh)
Buildings	Electricity	
	Gas	
	etc	
Industrial processes	Electricity	
	Gas	
	etc	
Transport	Diesel	
	Etc	

Significant energy consumption

End use	Utility	Energy consumption (kWh)	% covered by ISO 50001
Buildings	Electricity		
	Gas		
	etc		
Industrial processes	Electricity		
	Gas		
	etc		
Transport	Diesel		
	Etc		

De minimis exclusion

End use	Utility	Energy consumption (kWh)	% of TEC	Description (e.g. site/ subsidiary)
Buildings	Electricity			
	Gas			
	etc			
Industrial processes	Electricity			
	Gas			
	etc			
Transport	Diesel			
	Etc			

Audit methodology used	ISO/BS standard
Used 12 months verifiable data?	Yes/No, provide brief explanation
Use of energy consumption profiling?	Yes/No, provide brief explanation

Total number of sites	
Number of sites audited	
% of SEC covered by sample	
Rationale for site sampling method	

Savings identified from recommendations

End use	Measure type	Estimated annual energy saving	Estimated annual £ saving	Estimated cost of measures	Payback period
Buildings	Data quality				
	Energy management				
	Behaviour change interventions				

	Training				
	Controls				
	Zero/low-cost measures				
	Short term investments (3 years payback or less)				
	Longer term investments (over 3 years payback)				
Industrial processes	Data quality				
	Energy management				
	etc				
Transport	Data quality				
	etc				

Annex C: Example summary template

ESOS summary report

End use	Utility	Consumption (total)				
		Current phase	Previous phase	% Change	Phase 1	% Change
Buildings	Electricity					
	Gas					
	etc					
Industrial processes	Electricity					
	Gas					
	etc					
Transport	Diesel					
	Etc					

End use	Utility	Consumption (intensity metric)					
		Current phase	Net zero bench-mark current phase	Previous phase	% Change	Phase 1	% Change
Buildings	Electricity						
	Gas						
	etc						
Industrial processes	Electricity						
	Gas						
	etc						
Transport	Diesel						
	Etc						

Accompanying notes describing and explaining intensity metric used and changes to consumption over the period

Energy savings measures adopted

End use	Measure type	Estimated annual energy saving	Estimated annual £ saving	Cost	Payback period
Buildings	e.g. energy management system				
	e.g. LED lighting project				

Industrial processes	e.g. controls upgrade				
Transport	e.g. driver training				

Energy savings measures recommended and not adopted

End use	Measure type	Estimated annual energy saving	Estimated annual £ saving	Estimated cost of measures	Payback period
Buildings	Data quality				
	Energy management				
	etc				
Industrial processes	etc				
Transport	etc				

Accompanying notes describing energy efficiency measures taken up since previous ESOS report

Government support accessed related to energy and net zero

Support scheme	Details of support received	Dates covered
Renewable Heat Incentive		
Industrial Energy Transformation Fund		
Others		

Compliance

Type	Phase 1	Phase 2	Phase 3
Notified on time			
Audited			
Audit results and remedial action			

Annex D: Example recommendations template

ESOS recommendations

Set out corporate sustainability and/or CSR commitments (including targets)

Savings identified from recommendations - summary					
End use	Measure type	Estimated annual energy saving	Estimated annual £ saving	Estimated cost of measures	Payback period
Buildings	Data quality				
	Energy management				
	Behaviour change interventions				
	Training				
	Controls				
	Zero/low-cost measures				
	Short term investments (3 years payback or less)				
	Longer term investments (over 3 years payback)				
Industrial processes	Data quality				
	Energy management				
	etc				
Transport	Data quality				
	etc				
Total					

Opportunity 1

Description of opportunity	
Expected annual energy saving	
Annual cost of not investing	Total cost Cost relative to salient metric e.g. comparable increase in sales
Additional financial savings potential	E.g. reduced maintenance costs, longer product lifetimes
Cost of measure and expected return on investment/payback	
Non-financial benefits	E.g. improved workforce conditions, product quality, staff productivity and wellbeing, customer

	experience, maintenance and fault identification, reduced noise from production lines
Relevance to corporate priorities and/or CSR commitments	E.g. link to new product lines, new building outfitting, job creation, purchase of new equipment
Percentage of ESOS participants that have taken up this opportunity to date	
Next steps to carrying out measure	E.g. further surveys, expertise needed, options to consider, scheduling considerations
Sources of support	E.g. government grants, sources of independent advice, financing options
Suggested intervention point	E.g. lease renewal, plant replacement, equipment end of life
Constraints	E.g. lease terms, site access, disruption

Opportunity 2

Description of opportunity	
Expected annual energy saving	
etc	

Opportunity 3

Description of opportunity	
Expected annual energy saving	
etc	

Recommended package of measures

Measure	**Estimated annual energy saving**	**Estimated annual £ saving**	**Estimated cost of measure**	**Payback period**
Measure 1				
Measure 2				
Measure 3 etc				
Total package				

This consultation is available from: www.gov.uk/government/consultations/strengthening-the-energy-savings-opportunity-scheme-esos

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