UK Government

RAF006/2526: Evaluation of Energy Savings Opportunity Scheme (ESOS) Phase 3

Interim report

Department for Energy Security and Net Zero (2026)

Authors

Completed by ICF Consulting Services Ltd and IFF Research for the Department for Energy Security and Net Zero.

Views expressed in this report are those of the researcher and not necessarily those of the UK government.

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Glossary

BEIS – Department for Business, Energy and Industrial Strategy

CCA – Climate Change Agreement

DEC – Display Energy Certificate

DESNZ – Department for Energy Security and Net Zero

EPC – Energy Performance Certificate

ESOS – Energy Savings Opportunity Scheme

ETS – Emissions Trading System

FAME – Financial Analysis Made Easy

GDA – Green Deal Assessment

MESOS – Manage Your Energy Savings Opportunity Scheme

NOC – Notification of Compliance

SEC – Significant Energy Consumption

SECR – Streamlined Energy and Carbon Reporting

TEC – Total Energy Consumption

TOC – Theory of Change

QED – Quasi-Experimental Design

Executive summary

Introduction

The UK government is committed to achieving net zero emissions by 2050, requiring significant reductions in national energy use. One policy lever supporting this ambition is the Energy Savings Opportunity Scheme (ESOS), an energy audit programme designed to help large organisations identify cost-effective opportunities to reduce energy consumption and improve energy efficiency.

ESOS was introduced in 2014, mandating periodic energy audits for large enterprises, and operates as a domestic policy contributing to national energy efficiency objectives. Three phases of ESOS have been completed (with compliance deadlines for Phase 1 in 2015, Phase 2 in 2019, and Phase 3 in 2024 due to an extension from 2023). Across these phases, large organisations have been required to review energy consumption across buildings, industrial processes, and transport, and to report compliance to the Environment Agency.

An interim evaluation of ESOS was conducted and then published in 2017[1], which included a process evaluation and early impact evaluation findings. Follow-up research on energy audits and reporting (which had a broader scope, but was related to ESOS), was published in 2020[2]. Both pieces of work fed into a government consultation in 2022, which led to reforms to ESOS for Phase 3, including standardising reporting requirements and mandating public disclosure of high-level audit recommendations.

Research activities are ongoing and therefore this report represents an interim assessment of Phase 3 of ESOS. We are reporting now so that interim findings can feed into the ongoing development of future phases of ESOS, in particular to support a consultation on options to streamline how businesses report their energy and emissions. Therefore, the findings presented in this report use emerging evidence and focus on early indications of outcomes and impacts. A final evaluation report is expected to be published in early 2027 with additional evidence on the process, impact, and value for money of ESOS. Some specific elements of analysis for Phase 3 will only be possible after this date, and so there may be additional follow-up reports published after this date. We have drawn out some early insights into implications for policy design in the conclusions, to the extent that these can be drawn from the available evidence so far.

[1] BEIS (2017) 'Evaluation of the Energy Savings Opportunity Scheme: Interim process and early impact evaluation report'
[2] BEIS (2020) 'Research on energy audits and reporting, including the Energy Savings Opportunity Scheme'

Interpretation of interim findings

As this research is ongoing, this interim report focuses on the process and impact evaluation questions, and cost evidence which will be utilised as part of the value for money evaluation. A key strand of the impact evaluation is econometric analysis on the energy savings provided by ESOS from Phase 1 and Phase 2, which will only be available in the final report. Econometric analysis of the impact of Phase 3 would require further follow-up evaluation activity, as the energy use data covering 2024 and 2025 from the Non-domestic National Energy Efficiency Data (ND-NEED) database are not available until late 2026 and late 2027 respectively. Findings from this interim report should be interpreted with due caution until the full set of impact analyses as part of the evaluation have been conducted. For each of the main research tools used in this report, we have provided a note on interpretation at this stage (more detail is provided in the methodology section):

Business survey: The interim survey results are substantially complete, and therefore we would expect minimal change to figures in reporting going forward.

Interviews with businesses: A small number of interviews with participating businesses have been included – these are supplementary to other analysis and have not been systematically analysed as a standalone piece. They therefore provide additional context to illustrate evidence from other sources.

ESOS scheme data analysis: This analysis has used data from the first Progress Update data (deadline December 2025, latest cut of data taken in February 2026). These Progress Updates may continue to be submitted by participants, and so final reporting may include slightly updated figures, though will not vary substantially from what is reported here.

Survey findings: A total of 600 participants responded to the survey, 9% out of the total usable sample of 7,057 participants. When reporting differences between different types of participants, unless otherwise stated, only those differences that are statistically significant are reported (i.e. where we are at least 95% confident that there is a difference between the types of participants in the wider ESOS participant population, not only in the sample that took part in the survey).

Key findings

Participants are generally satisfied with government communications received about ESOS, however, awareness of compliance requirements remained low even up to the deadline. Participants were generally positive about the information and support available once they engaged with the scheme, but a substantial minority became aware late. Among respondents able to recall timing, 25% said they became aware of the need to comply after the June 2024 deadline. By contrast, 76% agreed that the correct information was available once guidance had been published. The evidence therefore indicates a problem with timely awareness for some organisations, rather than demonstrating that the guidance itself was inadequate.

Views of the MESOS portal are more positive than negative, but mixed: 50% agreed that it is user-friendly and easy to navigate, while 27% disagreed.

Satisfaction with ESOS audit quality is high. Three quarters (76%) of businesses were satisfied with the quality of their audit, whilst 71% agree that the audit produced helpful insights about their organisations' pattern of energy consumption. Almost all (98-99%) of participants required to undertake an audit reported receiving at least some energy saving recommendations. Three-quarters (74%) of participants felt that these recommendations were useful for reducing the organisation's energy use. In total 36 TWh of potential annual savings were identified, equivalent to 7% of annual consumption, lower than the 14% predicted in the original 2014 Impact Assessment for buildings and industrial processes.

Four in five participants report that they would have conducted an energy audit in the absence of ESOS, which could suggest limited additionality from the requirements. The survey did not establish how similar such an audit would have been to an audit meeting ESOS requirements: 35% cited other legislation or voluntary schemes and 44% say they would have conducted an audit voluntarily. This finding should therefore not be treated on its own as evidence of limited additionality.

Evidence suggests ESOS Phase 3 has contributed to greater awareness and pressure within businesses, but to differing degrees among participants. Although 71% feel that the audit provided useful insights on energy consumption, fewer think that Phase 3 improved internal awareness of energy consumption amongst key audiences within the business (43-44%, for energy managers and senior leaders respectively). Importantly, though, most participants (58%) say Phase 3 increased their organisation's motivation to improve energy efficiency. This implies ESOS can have impact without improving awareness of energy consumption, perhaps due to the value of audits' energy saving recommendations. Additionally, a small proportion (15%) of participants report that the new requirement to publish energy consumption and efficiency measures has led to increased external pressure on their organisation to reduce energy use.

Engagement with the new reporting requirements was substantial but declined at each stage. Based on data extracted two months after the first Progress Update deadline, of those that submitted at Notification of Compliance, 85% went on to submit an Action Plan and around 62% submitted the first Progress Update. For those who submitted an Action Plan with at least one recorded measure, this translates to 81% going on to submit a Progress Update.

Action Plans contained around 30,000 measures with estimated cumulative savings of 16.3 TWh to December 2027, equivalent to 9.3 TWh if all measures operated for a full year. When submitting Action Plans, participants are asked whether the measures had been recommended in ESOS audits. Measures from audits contributed around half (7.8 TWh) of the cumulative total savings and 4.9 TWh on an annualised basis. This means around 14% of the savings identified in audits were taken forward into Action Plans. When the business survey asked whether the measures were planned due to ESOS, over half (58%) of all Action Plan measures were attributed at least in part to ESOS. On an energy saving basis, however, these measures made up a far smaller proportion of total savings. The central estimate is that 19% of

annualised Action Plan savings were attributed to ESOS, with low and high estimates of 12% to 26%. This corresponds to 1.8 TWh per year, with a range of 1.1 to 2.4 TWh.

First Progress Updates recorded 3.8 TWh of achieved savings during the 12 months from 6 December 2024 to 5 December 2025, equivalent to 0.7% of all ESOS participants' annual energy consumption. Of this, 3.3 TWh came from measures already listed in Action Plans and 0.5 TWh from additional measures. The central attribution estimate is that 16% of these savings were attributed to ESOS, with low and high estimates of 9% to 23%, equivalent to 0.6 TWh (0.3 to 0.9 TWh). These data provide a snapshot of one reporting year; more savings due to ESOS Phase 3 may be achieved in subsequent years.

On the current self-reported evidence, therefore, savings attributed to ESOS Phase 3 – even including all future planned savings – are substantially lower than the assumptions used in the relevant Impact Assessments. ESOS was originally predicted to lead to average annual savings of 3 TWh, with the changes to Phase 3 predicted to increase savings by a further 2 TWh. In addition, the upper bound of savings found for Phase 3 is lower than the central estimate of annual savings found from the Phase 1 evaluation (3.7 TWh). This interim evaluation finding is based on self-reported savings and attribution which are subject to potential biases. The final evaluation will test the findings using quasi-experimental analysis on earlier phases, which should reveal actual changes in energy use rather than self-reported changes. The cost-effectiveness of ESOS Phase 3 will be assessed in the final report.

This evaluation so far corroborates previous assessments that Phases 1 and 2 led to the take-up of additional energy savings measures. Relatively similar results were reported across the two prior phases, with 83% and 82% of those taking part in Phases 1 and 2 respectively saying that they had gone on to install at least some of the measures identified. Predominantly, though, this additionality appears to be through speeding up the adoption of measures participants would have implemented a few years later. Of participants that installed measures due to ESOS Phase 1, 72% believe their organisation would have installed these measures anyway within 5 years of Phase 1, and a further 18% believe they would have installed the measures between 5-10 years after Phase 1. While these specific figures should be regarded with caution given the time elapsed since Phase 1 and the difficulty in respondents assessing the counterfactual, the findings suggest the impact of each ESOS phase on energy consumption is time-limited.

Emerging evidence suggests that, per participant, Phase 3 of ESOS has incurred less compliance burden than Phase 1. Participants reported a mean of 128 hours of internal staff time, compared with 210 hours in the Phase 1 evaluation. Action Plans and the first Progress Update accounted for relatively small shares of this total, at 11.3 and 7.6 hours respectively. Among all participating organisations, the mean cost of external assessors and other consultants was approximately £11,410, very similar to the comparable figure for Phase 1 (£11,793) after adjusting for inflation.

Implementation of the Phase 3 Changes

The Phase 3 changes have been implemented with substantial engagement and have improved the availability of information on planned and completed measures. One-third of those who also participated in earlier phases feel the new requirements increase internal engagement with ESOS. However, the interim evidence cannot say if Action Plans, Progress Updates or publication have increased realised energy savings beyond what would have occurred otherwise. Their clearest demonstrated contribution at this stage is stronger monitoring and transparency. The new MESOS system is generally seen as useful, and helps to standardise the process of compliance, though there are issues mentioned as part of the qualitative interviews about the usability of the system.

Publication of MESOS data has not so far seemed to generate a strong external pressure to reduce energy use. However, there is some qualitative evidence that this has improved senior awareness of the scheme in Phase 3.

Findings from the interim evaluation suggest that Phase 3 continues many of the impact patterns identified in earlier ESOS evaluations. As in Phases 1 and 2, the scheme appears to play a role in the installation of energy efficiency measures earlier than they otherwise would have been, and supporting actions that organisations may have undertaken independently – ESOS is more likely to be one factor in their implementation rather than the sole justification. However, there is emerging evidence that the incremental impact of successive phases is diminishing. Phase 3 has introduced new mechanisms to strengthen accountability and tracking and these have proved effective in improving monitoring and data availability. However, there is evidence repeating the ESOS process may lead to diminishing additional energy savings.

Specific insights for sub-groups of the participant population

Energy consumption:

There is some evidence that the additionality of ESOS is lower for businesses with greater energy consumption. They are less likely to report that audits provided new information and also less likely to agree that ESOS has increased organisational awareness more broadly. They are more likely to state that they would have conducted energy audits in the absence of ESOS, though this does not necessarily mean that ESOS audits did not provide additional value. This may in part be because higher energy consumers are more likely to participate in other schemes as well as ESOS.

The largest energy consumers are the least likely to attribute their energy savings to ESOS. Of energy savings made between December 2024 and December 2025, the largest fifth of energy consumers attribute just 13% of their savings to ESOS, compared to 53% of savings reported by the 20% of participants with the lowest amounts of energy consumption.

However, because businesses with higher energy consumption report the greatest absolute reductions in energy use, they make a critical contribution to overall scheme outcomes. Around 88% of total energy savings recorded in the Progress Updates between December 2024 and

2025 came from the top fifth of participants by energy consumption. In contrast, the lowest fifth of energy consumers were responsible for just <0.5% of the total energy savings recorded in the Progress Updates between December 2024 and 2025. This means that although the top fifth of energy consumers attribute the lowest proportion of their savings to ESOS, this still equates to 0.45 TWh, 81 times more energy saved due to ESOS than participants in the lowest fifth of energy consumers (<0.01 TWh).

Higher energy consumers incur higher audit and consultancy costs for those that use external consultants – the final evaluation report will more fully examine how this might affect the value of ESOS for these organisations. Early indications suggest that, whilst those in the highest energy consumption band incur higher costs compared to lower energy consumers, these are not as dramatically higher as the difference in total energy savings attributed to ESOS, suggesting higher cost-effectiveness of ESOS participation for higher energy consumers. (C. £17,500 on average spent on procuring a lead assessor and external consultants and 165 hours of internal staff time, compared to £11,410 and 128 hours averaged across the whole population of ESOS).

Size of business:

Similarly to findings by energy consumption (and partly because of overlap), larger organisations make the largest absolute contribution to total energy savings, accounting for the majority of savings delivered at a national level. Larger organisations incur higher external compliance costs (likely because of greater scope of compliance such as more sites), and commit to a greater absolute number of measures. Smaller organisations are more likely to report that measures were identified and implemented because of ESOS.

Participation in previous phases of ESOS:

Evidence on the ongoing value of ESOS for repeat participants is mixed. Among organisations that had participated previously, 40% agreed that Phase 3 remained a useful process and 39% disagreed; 25% said the new requirements helped identify new opportunities, while 46% disagreed. However, repeat and first-time participants were similarly likely to say the audit provided new information, and repeat participants reported large absolute savings in their Action Plans and Progress Updates, although this equated to a slightly lower proportion of their energy consumption as new participants. These comparisons are partly confounded by size and energy consumption, because repeat participants are more likely to be large, high-consuming organisations.

Overall conclusions

The interim evidence suggests that ESOS Phase 3 is operating effectively as an audit and reporting scheme, with good levels of participant engagement, including reasonable adoption of the new Action Plan and Progress Update requirements. Participants have generally positive views of the quality of audits, the key mechanism for identifying energy saving opportunities.

However, the evidence also suggests that ESOS continues to act primarily as an enabling and accelerating mechanism rather than as the primary driver of energy efficiency activity. Many participating organisations report that they would have undertaken some form of energy audit and one-quarter report that they would have implemented all their energy saving measures in the absence of ESOS.

Based on participant's own accounts, the scheme contributes energy savings, but the amount appears substantially lower than the previous evaluation and what was assumed in previous Impact Assessments. The cost-effectiveness of ESOS Phase 3 will be assessed in the final report.

The reforms introduced in Phase 3 have strengthened accountability and monitoring. A small proportion of participants report that these changes have increased internal engagement and external pressure to reduce energy consumption. These new components appear to have added little to participants' compliance costs.

Introduction

Policy introduction

The UK government has a commitment to reach net zero emissions by 2050, and achieving this will require significant reductions in national energy use, including from businesses. One policy lever supporting this ambition is the Energy Savings Opportunity Scheme (ESOS), which aims to drive business energy efficiency through improving awareness of energy consumption, identifying energy savings opportunities, and encouraging behavioural changes around energy use within businesses.

ESOS was introduced through the Energy Savings Opportunity Scheme Regulations 2014[3], partly to transpose Article 8 of the EU Energy Efficiency Directive (2012/27/EU)[4], when the UK was a member of the EU, as well as to contribute towards the delivery of the UK Energy Efficiency Strategy[5]. Following the UK's exit from the EU, new primary powers were created to allow for the continuation and strengthening of the scheme, with some changes to the regulations made for the third phase of ESOS in November 2023.

ESOS sits within a wider landscape of major policies that aim to incentivise improved energy efficiency in businesses, including the Streamlined Energy and Carbon Reporting (SECR) framework which requires public disclosure of energy use, Minimum Energy Efficiency Standards (MEES) which require improvements to building fabric or heating in rented buildings, and Climate Change Agreements (CCAs) which are voluntary agreements between industry and the Environment Agency. ESOS is the only one of these policies which requires an energy audit to be conducted.

The primary objectives of ESOS are to:

- Provide participating organisations with tailored energy saving information
- Stimulate the take-up of cost-effective energy efficiency measures

ESOS requires participating companies to carry out an energy audit signed off by an accredited lead assessor, which identifies energy savings opportunities within their organisation, or to use an alternative compliance route. Participants must submit a notification that they have complied to the scheme administrator, the Environment Agency, but are not required to implement the energy savings opportunities identified through ESOS.

[3] The Energy Savings Opportunity Scheme Regulations 2014
[4] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency
[5] DECC (2012) 'Energy efficiency strategy: the energy efficiency opportunity in the UK'

The main alternative compliance route used by participants is where participants have an accredited ISO 50001[6] energy management system (where this does not cover all energy consumption, the remainder must be covered by an energy audit or other route)[7].

To date, three phases of ESOS have been completed. Phases 1 and 2 of the scheme had very similar requirements, where organisations were required to notify the scheme administrator, the EA, of their compliance including details of their organisation and their chosen route to compliance but there was no requirement to report data relating to the energy audit on energy consumption and energy saving opportunities.

Ahead of Phase 3, the Department for Business, Energy and Industrial Strategy (BEIS) published policy proposals[8] in 2021 to improve and strengthen ESOS. The government response to this consultation was published in 2022, outlining changes to improve ESOS in Phase 3 and beyond.[9] The outlined changes to improve Phase 3 were implemented as the Energy Savings Opportunity Scheme (Amendment) Regulations 2023.[10] This was enabled through the passing of the Energy Act 2023[11], which also transposed the primary powers for ESOS following the UK's EU exit.

Impact Assessments for ESOS suggest that the original design of ESOS (i.e. in place for Phases 1 and 2) should amount to a total of 3 TWh savings annually[12], whilst the additional requirements outlined (in place for Phase 3 onwards) would provide an additional 2 TWh annual savings[13]. This shows the extent to which the Phase 3 changes were hoped to provide significant improvement beyond the original scope of the scheme. The Phase 3 compliance deadline was in 2024 (having been pushed back from 2023).

The full suite of changes is outlined in Table 1 at the end of this section and described further in the Theory of Change section. In summary, all requirements of Phases 1 and 2 have been retained, with additional requirements layered on top. The headline changes included a requirement to submit and publish energy consumption and energy savings data, and an energy intensity ratio, with further follow-up reporting in the form of an Action Plan and subsequent Progress Updates, designed to foster a longer-term roadmap for participating businesses, as well as changes to audit requirements and increased assessment quality. The 'de-minimis' threshold (the proportion of energy use that can be excluded from the audit), was reduced from 10% to 5%, again making the Phase 3 requirement more stringent.

[6] International Organization for Standardization, ISO 50001: Energy management
[7] The other routes that were applicable for Phase 3 were Display Energy Certificates (DECs) and Green Deal Assessments (GDAs) which only relate to buildings and are used by a very small proportion of participants
[8] BEIS (2021) 'Strengthening the Energy Savings Opportunity Scheme (ESOS): consultation on options'
[9] BEIS (2022) 'Strengthening the Energy Savings Opportunity Scheme (ESOS): government response'
[10] The Energy Savings Opportunity Scheme (Amendment) Regulations 2023
[11] Energy Act 2023
[12] BEIS (2022) 'Strengthening the Energy Savings Opportunity Scheme (ESOS): impact assessment', table 4 on page 37
[13] DESNZ (2023) 'The Energy Savings Opportunity Scheme (Amendment) Regulations 2023: Final Impact Assessment', paragraph 11, on page 8

ESOS eligibility

ESOS applies to all large UK undertakings and their corporate groups. An undertaking, as defined by the Companies Act 2006, is: i) a corporate body or partnership; ii) an unincorporated association carrying on a trade or business, with or without a view to profit. The definition includes partnerships, limited liability partnerships, joint ventures, and in many cases charities. For Phase 3, a large undertaking is in scope if it:

- Employs 250 or more people[14], OR
- Has an annual turnover exceeding £44 million, AND an annual balance sheet total above £38 million

Additional details about the qualification thresholds are included in Annex 4.

ESOS requirements

A summary of the steps required to complete an ESOS assessment can be found below for organisations which meet the eligibility criteria. Additional detailed guidance on ESOS requirements is outlined in the Environment Agency guidance on complying with Phase 3.[15] If an organisation does not meet the eligibility criteria, no further action is required. They can still carry out an ESOS assessment on a voluntary basis but the online reporting system does not allow them to report their data. Participating organisations must keep an ESOS evidence pack which records information about the ESOS assessment undertaken in the following steps.

Step 1: Measure total energy consumption

ESOS participants must calculate their total energy consumption over a 12-month reference period using either energy measurement units (e.g. kWh) or energy spent (in pounds). The reference period for Phase 3 must include the qualification date (31 December 2022) and end before the compliance date (5 December 2023). Total energy use must include all UK-consumed energy across the organisations' assets and activities (buildings, transport, industrial processes, other energy uses).

Step 2: Identify areas of significant energy consumption

ESOS participants may choose to identify the assets and activities that make up at least 95% of their total energy consumption, which is defined as their significant energy consumption (the portion of up to 5% is the 'de-minimis' and is the threshold for energy consumption that may be excluded from an audit, an update from the 10% in previous phases).

An organisation must audit their areas of significant energy consumption, or if they have not chosen to identify them, they must audit their total energy consumption. Organisations must keep records of what they exclude and include in their notification of compliance and ensure that excluded data is not used in the energy intensity ratio calculations.

[14] A person is employed by an undertaking if they are: i) an employee; ii) an owner or manager; iii) a partner.
[15] Environment Agency (2026) 'Comply with the Energy Savings Opportunity Scheme (ESOS): phase 3'

Step 3: Calculate energy intensity ratios

An energy intensity ratio measures an organisation's energy use relative to an activity indicator which allows for comparisons of energy efficiency over time and against similar organisations. Under ESOS, an organisation must calculate at least one energy intensity ratio for each of the following areas: i) buildings; ii) transport; iii) industrial processes; iv) other energy uses outside of those categories (where they use energy for those purposes). However, participating companies can decide which activity indicator they use in their reporting. The energy intensity ratio was a new requirement introduced in Phase 3.

Step 4: Consider available routes to compliance

There are multiple routes to complying with ESOS. Significant energy consumption, or total energy consumption, as the participant elects to use, must be covered by the following audit routes:

- Energy audit(s);
- ISO 50001 certification;
- Display Energy Certificates (DEC) and Green Deal Assessments (GDA) – though these were not applicable in all parts of the UK (for instance Scotland), and across the whole UK are no longer applicable from Phase 4 onwards

A combination of the above is also a valid route to compliance, as long as the different routes total 95% of energy use. For example, if 70% of energy consumption is covered by ISO 50001, then at least 25% must be covered by an energy audit, allowing for the 5% de minimis.

In practice, DECs and GDAs were not applicable in Scotland, which has a separate building energy certification framework, meaning that energy audits and ISO 50001 compliance are the only possible routes to compliance.

Information on the compliance routes used for areas of significant energy consumption (or total energy consumption) must be included in the ESOS report. Unless ISO 50001 certification covers total energy consumption, or total energy consumption is less than 40 MWh, an organisation must appoint a lead assessor (either internal or external) to consider whether the assessment meets ESOS requirements. A lead assessor's role is to review the ESOS assessment and provide advice to the organisation on whether they meet the requirements of ESOS. A lead assessor can participate in the audit process either through undertaking audit activities or reviewing the work of others who undertake the activities.

Step 5: Carry out any necessary ESOS audit(s)

An ESOS energy audit must be conducted for all parts of the organisation's significant (or total) energy consumption that is not covered by alternative compliance routes. The energy audit assesses energy consumption and efficiency to identify cost-effective measures that an organisation can implement to save energy.

The audit must:

- Be based on 12 months' verifiable data
- Analyse energy consumption and energy efficiency
- Identify energy saving opportunities
- Include site visits

The audit is not required to report on carbon emissions, though there is in practice often an overlap between energy reduction and reduced carbon emissions. Energy audits will likely broadly cover scope 1 and 2 emissions (direct and indirect)'.

Step 6: Complete the ESOS report

An ESOS report must be completed which details the ESOS assessment. This records information about the relevant compliance route and what it covers, the energy savings opportunities identified, and energy savings achieved since the previous ESOS compliance date. For organisations that are part of a corporate group, this report must be provided to all members of the group. A Director must confirm they have seen and considered recommendations from the audit or alternative compliance routes. Phase 3 introduced a standardised information requirements in ESOS reporting and a requirement to disseminate reports to subsidiaries. Phase 3 also introduced a 'next steps' requirement, which mandates reporting organisations to provide a suggested work programme, alongside identifying implementation considerations such as leasing, Minimum Energy Efficiency Standard (MEES) regulations and government financial support. The ESOS report is not sent to the Environment Agency but is retained by participating businesses.

Step 7: Notify the Environment Agency

Participating organisations must submit a Notification of Compliance (NOC) to the Environment Agency using the MESOS system, including: i) details about the organisation; ii) how it has complied; iii) energy consumption information; iv) energy savings opportunities that have been identified. MESOS (Manage your Energy Savings Opportunity Scheme) is a digital platform and was introduced in Phase 3 with the intention of streamlining compliance with the regulations by creating a single platform for submission. The system intended to make the process of submitting information required under ESOS easier for participants.

Additional reporting requirements

A significant change for Phase 3 is the requirement to produce one Action Plan (due December 2024) and then two Progress Update reports (due December 2025 and 2026), as well as the requirements to report data from the ESOS assessment in the Notification of Compliance, including total and significant energy consumption and potential energy savings from opportunities identified through ESOS. The Action Plan lays out whether any actions are intended to be taken forward, either from ESOS audits or from other sources, and requires businesses to commit to installation dates. The Progress Updates require businesses to track commitments made in the Action Plan and comment on whether they have followed through. However, as with Phases 1 and 2, any actions taken forward are done so on a voluntary basis.

Changes to ESOS Phase 3 are summarised below.

Table 1: Summary of Phase 3 changes

Overview	Detailed requirement
Stronger audit requirement	Standardised information in ESOS reporting
	Require energy intensity ratios (required for each organisational 'purpose', such as buildings, transport, industrial processes, etc.)
	Reduce the proportion of a business's total energy consumption that can be classed as 'de minimis' (and therefore out of scope of the energy audit) from 10% to 5%
	Participants to justify site sampling methodology
	ESOS reports to be disseminated to subsidiaries
Assessment quality	Requirements for next steps: provide suggested work programme, identify implementation considerations such as leasing, Minimum Energy Efficiency Standard regulations and government financial support
	(Optional) recommendations template, including identifying behavioural interventions
Additional reporting requirements	Require participants to produce an action plan and progress reports, to be publicly disclosed
	Require participants to submit additional data from their report to the Environment Agency as part of existing notification process, including total energy consumption, predicted savings and savings achieved. The Environment Agency in turn publish this data.

Evaluation aims, objectives and overall approach

The primary objective of this research is to evaluate the effectiveness of ESOS Phase 3 on energy efficiency activities, and this is delivered through a process, impact, and value for money evaluation:

- **Process evaluation:** focuses on the implementation and delivery, exploring the reasons behind the extent to which, and how, ESOS Phase 3 has worked
- **Impact evaluation:** focuses on the extent to which ESOS Phase 3 has delivered on its objectives to achieve energy savings.
- **Economic evaluation:** focuses on the costs and benefits of ESOS Phase 3 and whether it has delivered value for money

Further objectives of this evaluation are to, as far as possible, provide insights into the effectiveness of ESOS Phase 2 and long-term impacts of Phase 1.

Prior evaluation activity for ESOS has been primarily focused on Phase 1, including an interim evaluation (published in 2017) and follow-up research on energy audits and reporting (which had a broader scope, but was related to ESOS), was published in 2020.[16] A Post-Implementation Review (PIR), published in 2020, was largely informed by the findings of the evaluation[17]. This was followed up with a second PIR published in 2025.[18] The effectiveness and impact of the second phase of ESOS remains a key evidence gap as do the longer-term impacts of Phase 1, given that fieldwork for the evaluation was undertaken one and three years after the initial compliance deadline for ESOS Phase 1 in 2015.

Overall approach to evaluation design

A scoping review was conducted throughout autumn 2025, the purpose of which was to understand and map ESOS, and provide a detailed Evaluation Plan specifying the methodological approach. We outline the scoping activities here, as well as the resulting approach to the evaluation. The methodology section contains a more detailed description of the individual research tools used as part of the project.

The ICF-led evaluation team conducted a desk-based review to understand the policy background and its evolution over time (i.e. from Phase 1 to Phase 3), and other evidence to support the evaluation.

[16] BEIS (2020) 'Research on energy audits and reporting, including the Energy Savings Opportunity Scheme'
[17] BEIS (2020) 'Review of the Energy Savings Opportunity Scheme Regulations 2014'
[18] DESNZ (2025) 'Post Implementation Review of the ESOS Regulations 2014'

The Theory of Change was developed via a workshop held with DESNZ stakeholders and informed by a review of key documents and aims to reflect the regulations at Phase 3. The team reviewed and considered the previous evaluation work for ESOS which contained a ToC relevant to the policy for Phase 1.

In light of understanding the intended functioning of the policy, as well as risks, assumptions and alternative explanations, the evaluation questions (EQs) were reviewed. Minor revisions were suggested and reported in the Evaluation Plan, consisting of changes in wording and emphasis to better reflect the policy.

The final EQs formed a central component of the methodological framework. Each EQ was mapped against the proposed evidence sources and research activities, including the participant survey, qualitative interviews, MESOS analysis, audit review, and economic evaluation. This mapping provided a transparent framework for assessing how each question would be addressed and ensured that research instruments were designed to collect evidence relevant to the evaluation objectives. A summarised version of this framework is included in **Figure 3** at the end of the methodology section.

The reporting structure adopted in this report broadly follows the thematic structure of the EQs and the ToC, covering the key stages through which ESOS is expected to generate impacts. However, rather than reporting against individual evaluation questions sequentially, a narrative-led approach has been adopted to present findings in a way that reflects how participants experience the scheme and how different aspects of the evidence interact. To maintain a clear link with the evaluation framework, the conclusion section brings the evidence together through a more explicit assessment of the extent to which the EQs have been answered and the extent to which the Theory of Change is evidenced by the findings.

Scope of the interim report

This report is an interim evaluation, presenting the evidence collected in the interim evaluation stage. The evidence presented includes emerging, partial findings from the process and impact evaluation but does not include the value for money evaluation at this stage. Further research is being conducted to provide additional evidence and will be published in the ESOS evaluation final report.

The table below sets out the overall EQs, which evaluation area will inform the answer, and a summary of whether the evidence is available for this interim report, whether the evidence will continue to be developed and included in the final report, or whether new evidence will be presented as part of the final report only. A full list of EQs and sub-EQs is included in the annex.

Figure 1: Progress towards evaluation questions in the interim and final evaluation reports for ESOS Phase 3

	Evaluation	Evidence progress
1	How have participants and lead assessors found the process of complying with ESOS?	Interim evaluation and final evaluation
2	To what extent has the assessor market in Phase 3 supported the needs of ESOS-obligated organisations?	Interim evaluation and final evaluation
3	To what extent, and in what ways, does ESOS affect organisations' decisions to implement energy savings measures? How have the additional requirements introduced in Phase 3 – particularly reporting requirements – changed this?	Interim evaluation and final evaluation
4	By how much does ESOS reduce energy consumption? What is the resulting change in emissions?	Interim evaluation and final evaluation
5	What has been the total cost of complying with Phase 3 of ESOS, in particular the additional requirements?	Interim evaluation and final evaluation
6	To what extent do ESOS audits result in other costs and benefits e.g. reputational benefits?	Interim evaluation and final evaluation
7	What is the estimated net present social value of ESOS?	Final evaluation only

Theory of Change

ICF, in collaboration with DESNZ, developed a Theory of Change (ToC) for ESOS Phase 3 which focuses on the behaviour that the intervention is trying to influence and identifies the mechanisms that link the intervention activities to the targeted behaviour. As outlined above, ESOS is primarily a behavioural intervention given that there are no explicit requirements to reduce energy use itself.

We outline below a summarised version of the findings, which forms a more basic 'logic model' for the intended functioning of the ESOS policy. Key assumptions, risks, alternative explanations and the ToC diagram are outlined in Annex 1.

Inputs

Inputs are the resources invested in delivering ESOS. ESOS inputs are derived through policy development and administration, organisational resource, and energy assessor requirements. **Policy development and administration** inputs take the form of organisational resources (staff time and funding) which have been provided through DESNZ (formerly BEIS) in collaboration with other central government departments, devolved administrations, the Environment Agency as overall administrator and regulator for England, and supported by regulators of the devolved administrations. **Organisational resource** includes staff time and any financial costs to participating organisations for complying with ESOS, and **energy assessor requirements** include accreditation and training required to carry out ESOS audits.

In implementing the changes to Phase 3 of ESOS, legislation was laid before Parliament to update the regulations of the scheme, and a new IT system, MESOS (Manage your Energy Savings Opportunities Scheme) was introduced to streamline the process.

Activities

Activities are the actions or processes carried out as part of ESOS. Activities for **government** as part of ESOS are associated with communication and the implementation of processes to increase awareness and compliance with the regulations, including direct mails, roadshows, scheme guidance publication and a helpdesk service, as well as channels external to the scheme e.g. industry press. Activities for **participating organisations** are detailed in steps 1 – 7 in the ESOS requirements section, and for **ESOS assessors** this includes conducting audits for organisations.

Outputs and outcomes

Outputs are the tangible results of the activities taking place due to ESOS. Outcomes are the short-term changes due to ESOS, which are directly attributable to the regulations. For ESOS, these steps are difficult to distinguish, particularly for actions that relate to behavioural changes

which often lead to further changes but are also initial outcomes in themselves. We have therefore included both as the same step in this narrative and they will be referred to as outcomes.

There are multiple outcomes for **participating organisations**. By addressing information market failures, the policy will lead some organisations to have an increased awareness of the opportunities to invest resources in improving their energy efficiency to reduce energy costs (and increase profits). The extent to which this leads to outcomes of energy efficiency measures installed or energy efficiency targets and action plans pursued will depend to a large extent on organisational factors such as the scale and autonomy of budgets, the capacity and skills of staff, business continuity issues, competing investments as well as the quality of and credibility given to energy audit information, and perceptions of reputational benefits (as reported in the previous ESOS evaluation[19], and the Electricity Demand Reduction evaluation[20]).

As a result of the measures introduced as part of Phase 3, ESOS is expected to provide additional outcomes for organisations. Compulsory **internal dissemination** of reporting, including to subsidiaries, and the director-level sign-off requirement may increase the breadth of knowledge within organisations. Further, the Environment Agency's **external publication** ESOS data may result in increased engagement amongst seniors due to the increased risks (and opportunities) associated with public scrutiny, as well as external scrutiny due to potential public and journalistic engagement. The introduction of **energy intensity ratios** aims to provide a benchmark for organisations to track over time and may lead to adjustments of commitments accordingly. The increases in internal and external scrutiny and awareness, and potential benchmarking against other organisations, may lead to an increase in the **quality of commitments**. This would be caused by a change in perception from a compliance exercise to something more impactful.

The mechanism through which these outcomes are introduced as a result of the Phase 3 changes is grounded in behavioural theory, where the structure of an Action Plan may create a sense of expectation around actions and making them default (i.e. an action is business as usual and doing nothing is a conscious choice). Further, an earlier evaluation[21] cited other evidence that a commitment, in particular a publicised commitment, to an action increases the likelihood of action and the voluntary recommendations template[22] for Phase 3 is designed to encourage companies to implement measures.

[19] BEIS (2017) 'Evaluation of the Energy Savings Opportunity Scheme: Interim process and early impact evaluation report'
[20] BEIS (2019) 'Electricity Demand Reduction (EDR) pilot: final evaluation report'
[21] BEIS (2020) 'Research on energy audits and reporting, including the Energy Savings Opportunity Scheme', page 66
[22] Environment Agency (2026) 'Example template of phase 3 ESOS recommendations'

There are outcomes associated with the energy assessor market through supply side response to the additional demand for energy efficiency audits, meaning the assessor market was originally expected to expand in size for Phase 1. (The Phase 1 evaluation reported that over 900 Lead Assessors were accredited[23]. Although not entirely comparable, the number of unique Lead Assessors recorded on Phase 3 Notifications of Compliance was lower, around 770-780[24].)

Impacts

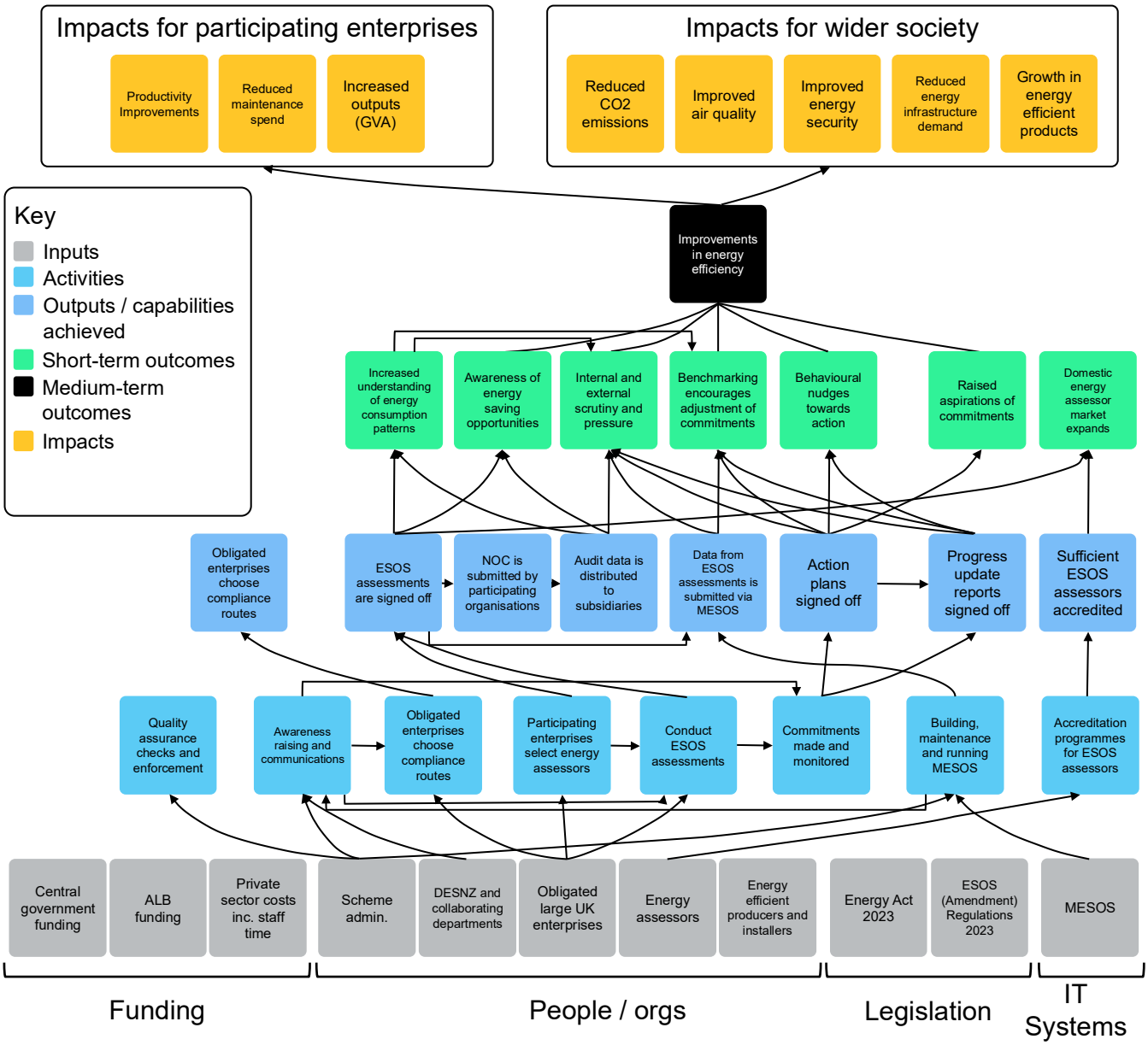
Impacts are longer-term outcomes resulting from ESOS which are typically less direct and are also affected by external factors outside of the control of ESOS. The impacts of ESOS are anticipated to include **improvements in energy efficiency** through the installation of measures or other actions to reduce energy consumption. This in turn should lead to a **reduction in energy use** and **greenhouse gas emissions**. For participating organisations, there may be **reduced maintenance spend** through the installation of better performing energy management systems or specific energy efficiency measures (e.g. longer lasting LED light bulbs).

There is the potential that ESOS may also lead to improvements in **productivity and output (GVA)**. Productivity improvements would result from lower energy costs for a given level of output reducing unit costs, however the size of this effect will be dependent on how far energy efficiency investments 'crowd out' other investments with the potential to raise productivity. Output improvements would be realised if firms choose to reduce prices in response to the efficiencies realised and may increase their market share, increasing overall production. However, the net effect at the level of the UK economy will depend on how far this market share is taken from domestic competitors, and meeting higher levels of demand may increase energy consumption and thus offset the initial energy reductions (re-bound effect).

There are also expected to be a range of wider social benefits. Reductions in energy consumption would also lead to lower greenhouse gas emissions and better air quality, and for the traded sector reduce the number of EU ETS allowances UK businesses need to buy. Reducing energy demand through energy efficiency can also improve security of supply. Improved security of supply can reduce the UK's exposure to volatile international energy markets and means less energy infrastructure is required, lowering the overall costs of the energy system. Increased demand for energy efficient technologies can also have a beneficial impact on the industries and services that produce and install these technologies. These indirect benefits would result from the implementation of assessment recommendations, rather than the assessments themselves.

[23] BEIS (2017) 'Evaluation of the Energy Savings Opportunity Scheme: Interim process and early impact evaluation report', page 7.
[24] Using unpublished MESOS data, as of 9 December 2025, there were 782 unique Lead Assessor ID numbers associated with Phase 3 Notifications of Compliance. (This is following cleaning of the IDs to remove non-alphanumeric characters, any IDs with fewer than three digits, or IDs that contained the following text: 'not known', 'unknown', 'not available', 'ISO50001', 'ISO14001'.) Alternatively, based on first name and surname, which may undercount the number of Lead Assessors where different assessors have the same name, 766 unique names were listed under the Lead Assessor field.

Figure 2: ESOS Theory of Change, updated for Phase 3



Methodology

A mixed-methods approach is used for this evaluation, incorporating a range of primary and secondary evidence sources that allow for triangulation of evidence for the process, impact, and value for money evaluation. This report provides interim findings from a scoping review conducted by the evaluation team, the business survey and MESOS data analysis. A small number of interviews with participating businesses have been included – these are supplementary to other analysis and have not been systematically analysed as a standalone piece.

Additional evidence development through further qualitative interviews, a manual and automated audit review, quasi-experimental design (QED) approach to the impact evaluation, and a 5Es[25] and cost-benefit analysis (CBA) approach to the value for money evaluation will be presented in the final report.

Survey

In support of all three evaluation method elements, IFF Research conducted a quantitative telephone-based (CATI) business survey. This gathered evidence on the experience of participating organisations, their perceived impacts, and the costs of compliance.

A total of 600 surveys were completed from a sample frame of 7,057 participants, representing a 9% response rate. The sample frame comprised participants that had submitted a NOC by December 2025 which confirmed that the organisation qualified for ESOS and was responsible for more than 40 MWh of energy (and where the NOC account was not recorded as having been ‘closed’ or ‘denied’ by scheme administrator). The NOC data included contact details for relevant individuals for each responsible undertaking (7,666 in total), though this was reduced to 7,057 after deduplication and cleaning of contact details.

This sample frame was split evenly into five bands of equal numbers of participants based upon energy consumption (i.e. quintiles). Targets were then set up to ensure that each band included at least 60 records to ensure robust subgroup analysis by energy consumption quintiles. For the remaining 300 surveys, the upper quintile was predominantly targeted. This top quintile of participants, based on analysis of MESOS data, is responsible for an overwhelming majority of energy consumption and achieved energy savings across all ESOS participants (89%). It was therefore preferable to oversample this quintile to achieve higher precision when estimating what energy savings could be attributed to the scheme overall.

[25] 5Es is a structured assessment of economy, efficiency, effectiveness, equity and cost-effectiveness. A framework of standard against each of the 5Es was defined with DESNZ prior to the evaluation. Judgements are then made against these standards to evaluate the value for money of ESOS.

Table 2: Business survey energy consumption bands

	Energy consumption (MWh)	Number (%)
1.	900 or lower	94 (16%)
2.	>900 to 3,250	92 (15%)
3.	>3,250 to 8,500	98 (16%)
4.	>8,500 to 28,250	102 (17%)
5.	>28,250	214 (36%)

The survey findings were weighted to align the profile of the sample to the wider population of ESOS participants. It was applied on the basis of energy consumption, given the approach taken to disproportionately sample participants with higher energy consumption. This is known as 'design' weighting, as it aims to correct for any over- or under-representation resulting from the sample design. The applied weights are shown in Table 3.

Table 3 Weighting applied to population based on energy consumption

Energy consumption (MWh)	Participant population	Survey sample (unweighted)	Weight
900 or lower	19.7%	15.7%	1.26
>900 to 3,250	20.0%	15.3%	1.31
>3,250 to 8,500	20.2%	15.7%	1.29
>8,500 to 28,250	19.9%	15.7%	1.27
>28,250 or more	20.2%	35.7%	0.57

The sample was contacted in line with random probability-based sampling – i.e. each participant had a known probability of being contacted. This allows findings to be generalised to the wider population of ESOS participants with a particular level of precision. The total sample size delivers a maximum margin of error of ±3.5 percentage points at the 95% confidence level. Unless otherwise stated, when comparing responses between groups of participants, only statistically significant differences (at the 95% confidence level) are reported (i.e. where we are at least 95% confident that there is a difference between the groups in the wider population of participants, not just in the sample of participants who took part in the survey).

Individuals named within the MESOS data as the contact were first targeted to ensure that the most relevant person regarding the topic was surveyed. As part of the screening process, they were told about the topics that would be covered in the survey and asked if they were the best person to speak to. If not, they referred the interviewer to the better contact.

Prior to launching the survey, 10 cognitive interviews were carried out across different sectors and sizes to ensure the questionnaire was clear to respondents and that questions were interpreted as intended. Minor adjustments were made to the questions at this point.

Most respondents took between 30 to 40 minutes to complete the survey. The survey covered the following thematic areas:

- Views on initial understanding of Phase 3 of ESOS (and the changes created since phases 1 and 2).
- Participants' experience identifying a suitable assessor for their audit reports[26]
- Participants' experience of the audit being conducted, including usefulness of recommendations and quality of the audit[27]
- Changes to the organisation as a result of ESOS
- The effect of ESOS on which energy efficiency measures the participant implemented

The survey gathered evidence on the cost and resource burden for participating in ESOS. We have utilised the evidence provided by participants to estimate the resource burden for organisations (i.e. staff time) in complying with ESOS and carrying out the requirements of each stage of ESOS assessments. This also provides evidence on external costs associated with ESOS compliance, predominantly through the use of an external lead assessor, but also for other services.

Regarding the effect ESOS had on influencing the measures which an organisation implemented, measures were identified from the MESOS Action Plan and Progress Update data and presented to the participant (where they had more than 10 measures a random sample of 10 was presented). They were then asked for each measure whether they were implemented entirely due to ESOS, partly due to ESOS, or entirely due to other factors.

Participants were then asked for the cost of each measure, where they were at least partly due to ESOS.

Interviews

Qualitative semi-structured interviews are being undertaken as part of this evaluation with the aim of developing an in-depth understanding of the ESOS process and the mechanisms which underpin the achievement of ESOS objectives.

[26] Where participants did not have to undertake an audit, such as those who complied in full via other routes, these questions were not asked.
[27] Where participants did not have to undertake an audit, such as those who complied in full via other routes, these questions were not asked.

By the time the main evaluation has been completed we will have conducted 75 interviews with four stakeholder groups:

- Staff from DESNZ and the scheme administrator, the Environment agency (five interviews)
- ESOS participants (40 interviews)
- Energy assessors (25 interviews)
- Energy assessor professional bodies (five interviews)

At the time of preparing this report 16 ESOS participants have been interviewed. These interim findings are included in this report.

These interviews explored the survey themes in more detail, with a particular focus on participants' views on the quality of their energy audit. The interviewees were recruited through the quantitative survey. Interview quotas were set according to energy consumption, turnover, sector, number of sites, tenure, whether they participated in previous ESOS phases, and responses to particular survey questions (e.g., whether or not they found their energy audit report to be helpful). This ensured that we captured views from a broad range of participants.

These semi-structured interviews were conducted on Microsoft Teams and lasted between 45 and 60 minutes. Interviews were carried out using stakeholder-specific topic guides, which were iteratively developed between IFF Research, ICF, and DESNZ. The guides were used flexibly as an aide-memoire, allowing interviewers to adapt the conversation to the expertise and experience of each participant while ensuring consistency across the core themes mentioned above.

MESOS data analysis

The analysis of the MESOS data comprises a set of descriptive statistics on energy consumption and savings data. This is intended to provide an overall view of energy savings identified by the scheme, and the extent to which energy saving measures were adopted in practice.

Subgroup analysis enabled us to assess differential impact and contribution from different groups of participants and different types of savings. These subgroups included energy consumption/savings type (buildings, transport, industrial processes and other processes), company headcount bands (<250, 250-499, 500-999, 1000+), annual turnover bands (<£50m, £50m-100m, £100m-200m, >£200m), and participation in previous ESOS Phases (Phase 1, Phase 2 or neither).

Quantitative analysis of MESOS data utilised several individual datasets, all provided by DESNZ:

- ESOS Phase 3 NOCs, which include notification of qualification for ESOS and ESOS audit and assessment results
- ESOS Phase 3 Action Plans, containing the submitted energy saving measures committed to and their savings potential
- The first ESOS Phase 3 Progress Update, tracking savings up until December 2025 from measures committed to in the action plan, as well as savings from any further measures implemented which were not originally in the action plan
- A dataset highlighting whether each enterprise in the Phase 3 dataset had participated in Phase 1 and/or 2, provided by DESNZ. See Annex 8 for further details on how this data linking was undertaken
- Supplementary data from the Financial Analysis Made Easy (FAME) database, which contained key financial indicators for UK companies participating in ESOS, including headcount and annual turnover. See Annex 8 for further details on how this data linking was undertaken

Entries in the ESOS Phase 3 datasets were matched based on NOC ID (a unique participant identifier across the datasets).

Several exclusions were applied to the Phase 3 MESOS datasets to improve the robustness of the data analysis (Table 4 below).

Table 4: Exclusions applied to MESOS analysis

(Residual n. after each stage of removal).

Exclusions:	NOCs	Action Plans with measures remaining	Action Plan measures	Progress Updates with measures remaining	Progress Updates measures
Duplicate NOC/AP/PU IDs removed[28]	10,198	5,840 [29]	32,976	4,863	29,553
NOCs from organisations which reported they do not qualify removed[30]	8,154	5,769	32,629	4,856	29,542
NOCs from organisations which reported they are not responsible for energy or that their energy consumption less than 40,000 kWh per year.[3132]	7,703	5,686	32,299	4,791	29,284
AP and PU measures with total savings over 100,000,000 kWh excluded	7,703	5,682	32,241	4,791	29,271
AP and PU measures with total savings under 100 kWh excluded[33]	7,703	5,645	31,271	4,729	28,318
AP and PU measures with annual savings over 20% of the organisation's annual energy consumption are excluded	7,703	5,582	30,896	4,711	28,184

[28] To note: checking undertaken in July 2026 identified that one NOC included in the analysis related to a test entry. This should not have been included but does not affect any of the figures in this report. In addition, there are eight genuine NOCs used that related to accounts which were open in December 2025 (when the survey sample was drawn) but by July 2026 had been closed by the Environment Agency. These eight NOCs contribute 0.02% to total energy consumption reported in NOCs and 0.01% of Action Plan savings – as such their inclusion or exclusion has no appreciable impact on findings in this report.
[29] A further 991 Action Plans were submitted with 0 measures.
[30] Only an exclusion for NOC-level data where relevant
[31] Participants responsible for less than 40,000 kWh must still measure energy use but are exempt from undertaking a detailed energy audit.
[32] Only an exclusion for NOC-level data where relevant
[33] The purpose of this exclusion was to remove measures which were not in scope of ESOS, such as fuel switching measures, or measures with erroneously low savings. This does not apply to measures with 0 savings (i.e., measure in the Progress Updates which have not been implemented yet).

Exclusions:	NOCs	Action Plans with measures remaining	Action Plan measures	Progress Updates with measures remaining	Progress Updates measures
Exclusion of 6 NOCs due to duplication of CRNs – more information provided in Annex 3	7,699	5,581	30,890	4,710	28,178
NOC submissions from organisations relating to energy production or transfer were excluded[34].	7,552	5,456	30,049	4,607	27,341

Some of these exclusions significantly affect the magnitude of some of the results reported, due to the nature of the records excluded. For example, the exclusion of companies involved with energy production or transfer reduced the total annual energy consumption reported across all ESOS participants from 923 TWh to 507 TWh. Many of these exclusions are intended to remove likely erroneous outliers and result in more meaningful findings from the data analysis. A manual review of excluded companies was undertaken to ensure they are justified, particularly as they would affect results significantly.

Action Plans require that participants enter the estimated projected total savings from each planned measure over the period December 2023 to December 2027. One complication in interpreting these is that for measures with recorded implementation dates close to the end of the compliance period (November to December 2027) participants have filled out the data field in different ways. Based on a manual review of a sample of these measures[35], many refer to whole programmes of actions that start being implemented well before December 2027. Some of these provide a figure reflecting the total cumulative savings for actions up to December 2027, while others show the annual savings that will be made once the programme is fully implemented. In many cases it is not possible to tell what approach has been taken.

As it was not feasible to ascertain the approach participants had taken for all but a small number of measures, minimal actions could be taken to rectify this discrepancy. The impact of this is that when using the figures for ‘total projected savings to December 2027’, this is likely a slight underestimate, as we know that annual data was recorded for some measures that were expected to make savings over several years of the period. When Action Plan savings are

[34] Manual reviews of several energy producers and transmitters suggested that these companies had included as their ESOS energy consumption all energy that passed through them, including large amounts final energy which would be used by other businesses. This would lead to double counting of energy consumption within the ESOS population and would distort the calculation of energy saving measures as a proportion of energy consumption. To ensure accurate and sensible findings, the analysis excluded all large energy producers and transmitters. See Annex 3 for further details.
[35] See Annex 3 for further details.

annualised[36], we exclude from this conversion measures with implementation dates of November or December 2027. This will correctly deal with measures where annual data was reported, ensuring savings are not grossly inflated. Even with this adjustment, these figures will still overestimate annual savings for measures that started to be implemented earlier than the reported implementation date and where cumulative savings over the whole 2023-2027 period have been reported.

The MESOS analysis is reported on a whole population basis (i.e. it is not a sub-sample of NOCs, Action Plans and Progress Updates). Statistical testing is therefore not required for the results as there is not any sampling uncertainty in the reporting.

Summary of participants

Once exclusions were applied, analysis of the MESOS data shows that 10,043 enterprises submitted a notification of compliance. Of these, 7,999 said they qualified for ESOS, 7,754 of which were also responsible for energy, however 202 of these consumed less than 40,000 kWh energy per year so were exempt from undertaking a detailed audit. 91% of participating enterprises audited all of their energy through the ESOS audit (excluding the de-minimis), while for 9% of participating enterprises, at least some of their energy was covered by an alternative compliance route such as ISO50001 (5% had all of their energy covered by an alternative compliance route).

Linking survey and MESOS data

The survey responses and MESOS data were linked at an individual participant and measure level. This provides a useful link between survey measures, notably the attribution of energy savings to ESOS and the cost of measures, and the recorded energy savings documented throughout the MESOS data.

Survey participants and the respective MESOS data for their businesses were matched by NOC ID. Individual measures committed to in the Action Plan and Progress Updates were matched by measure name. A comprehensive list of exclusions is included in the annexes.

[36] Annualisation is a calculation that takes total savings over the period December 2023-December 2027, converting this to represent the savings that would be made if the measure was active for a single, full year. This aids comparison with annual energy consumption and annual potential energy savings recorded in the NOC. As an example of annualisation, for measures implemented in December 2023, these would be divided by four to convert them from the reported total savings to December 2027. For measures implemented in November 2027, one month before the end of the phase, the total savings reported to December 2027 would be multiplied by 12.

Attribution

As set out in the Survey methodology section, survey respondents were asked about whether certain measures were due to ESOS in part or in full. For measures that were reported as 'partly as a result of ESOS', only a proportion of the reported energy savings are attributed to ESOS. The central assumption used is that 50% of savings for each of these 'partly' attributed measures are due to ESOS, with a low and high scenarios calculated assuming 25% and 75% of savings respectively are attributed. "Don't know" responses are excluded from the calculations.

Applying the attribution of energy savings to the wider population

The analysis estimates how many total Action Plan and Progress Update savings (in kWh terms) were reportedly due to ESOS. To do this, the attribution percentages for measures calculated in the linked ESOS-survey dataset (outlined above) are multiplied by the total energy savings reported across all participants in MESOS data.

These calculations are done separately for each energy type (buildings, transport, industrial processes, other processes and unknown energy type) and energy consumption band, to address any difference between the survey sample and MESOS population with regards to these characteristics. Weighting the savings reported for each participant in the linked MESOS-survey data using the survey weightings corrects for over- or underrepresentation of these strata.

As noted above, blanks in responses about the AP measures, as well as blanks in the survey data for attribution of savings to ESOS, have been excluded. This is also to ensure representativeness when scaling to population level, with the following logic applying:

- Where participants have no measures in their AP, the methodology assumes they have no energy savings anyway – therefore excluding them does not affect results
- Where participants were not able to provide information about a given measure asked about (either in terms of cost, or attribution to ESOS), these have also been excluded. The alternative approach of treating them as a '0' would likely create an underestimate of savings or costs attributed to ESOS.

Limitations of the attribution analysis

- **Complex differences between the survey sample and MESOS population:** The survey sample differs from the wider MESOS population across several characteristics. As a result, the estimated total savings attributed to ESOS can vary depending on which characteristics are used to calculate attribution proportions which are then applied to the MESOS population. This creates uncertainty in the final attribution estimates. The analysis can only adjust for differences between the sample and population using a limited number of characteristics at a time, because there is not enough data to split the survey sample by many characteristics simultaneously. Even just accounting for energy consumption band and energy type required some adjustments (See 'Adjustment of attribution percentages'). This means that the total savings attributed to ESOS may be

different if characteristics other than energy type and energy consumption band was chosen.

- **Reliance on self-reported energy savings data:** the analysis relies on energy savings estimates reported by participants through Action Plans and Progress Updates. However, it is likely that participants have drawn upon audits for these figures, as any audit carried out for ESOS is required to provide, where reasonably practicable, an estimate of the savings and costs associated with implementing each energy saving opportunity.
- While these data provide the most comprehensive available source of information on planned and implemented measures, they are self-reported and therefore subject to potential reporting biases, estimation error, selective tailoring of measures, self-enhancement bias, optimism bias, social desirability bias (i.e. a desire to prove commitment to energy efficiency), issues with recall in data updates and differences in how organisations calculate or forecast energy savings. As a result, reported savings should be treated as indicative rather than precise measures of realised energy savings.
- **Self-reported attribution estimates:** attribution estimates are based on participants' own assessments of the extent to which measures were implemented as a result of ESOS. Determining attribution is inherently challenging, as investment decisions are rarely driven by a single factor. In practice, decisions to implement energy efficiency measures may reflect the combined influence of ESOS audits, wider organisational strategies, energy prices, carbon reduction objectives, compliance with other schemes, and broader market conditions. Consequently, participants may find it difficult to accurately distinguish the specific contribution of ESOS from these wider influences, and the numerical translations of these statements may not reflect the actual energy saved due to ESOS.
- **Absence of a counterfactual:** The analysis does not compare outcomes against a direct counterfactual group of similar organisations that did not participate in ESOS, nor does it observe what would have occurred in the absence of the scheme. Instead, the assessment relies on participants' retrospective judgements regarding what they would have done without ESOS.

Cost measures relative to energy savings (£ per kWh saved)

The survey and MESOS data linking can also be used to gain partial insight into the cost effectiveness of various different measures on a £ per kWh basis. The key data points collected for this analysis were:

- Implementation cost of measures, as collected in the survey (asked for up to 10 measures from the Action Plan or new measures from the Progress Updates)
- Energy savings from the MESOS data

The metric was calculated as the ratio of total recorded implementation costs to the total lifetime energy savings of measures for which both cost and savings data were available. Both values were aggregated to the respondent level and then weighted using the survey weights.

The following equation was then applied to the aggregate values of these costs and savings:

> *Total cost of all measures with available cost and savings data ÷ (annualised energy savings of those measures × assumed lifetime of the measures).*

To account for uncertainty in the duration over which measures generate savings, three illustrative assumptions were applied: a lower-bound estimate of 2 years, a central estimate of 8 years, and an upper-bound estimate of 15 years. These assumptions were applied consistently across all measures for each version of the analysis.

Figure 3: Summary of interim report evaluation framework

	ESOS scheme data	Participant survey	Participant interviews	Survey & MESOS linking
EQ1: How have participants and lead assessors found the process of complying with the ESOS Phase 3?	Not used	Used	Used	Not used
EQ2: To what extent has the assessor market in Phase 3 supported the needs of ESOS–obligated organisations?	Not used	Used	Used	Not used
EQ3: To what extent, and in what ways, does ESOS affect organisations' decisions to implement energy saving measures? How have the additional requirements introduced in Phase 3 – particularly the reporting requirements – changed this?	Used	Used	Used	Not used
EQ4: By how much does ESOS reduce energy consumption? What is the resulting change in emissions?	Used	Not used	Not used	Used
EQ5: What has been the total cost of complying with Phase 3 of ESOS, in particular with the additional requirements imposed? How do these costs compare to those found in the previous evaluation?	Used	Used	Not used	Used

	ESOS scheme data	Participant survey	Participant interviews	Survey & MESOS linking
EQ6: To what extent do ESOS audits result in other costs and benefits? E.g. reputational improvements, complementing or distracting from organisations' own sustainability objectives?	Not used	Used	Used	Not used
EQ7: What is the estimated net present social value of ESOS, and how does this compare to those estimates in the 2014 and 2023 impact assessments when adjusted over a comparable time period?	Final report	Final report	Final report	Final report

Results

How have participants and lead assessors found the process of complying with the ESOS Phase 3?

Key findings

Most participants learned about changes via consultants, emails, and the Environment Agency newsletter, though a quarter recalled only becoming aware after the compliance deadline.

Participants' experiences of ESOS Phase 3 delivery were mostly positive, although there was a significant minority that found out about the requirements late and were generally dissatisfied. Larger, higher energy users and those with prior ESOS experience were better informed and more positive about timelines, guidance, and support.

Views of the MESOS portal were mixed but broadly neutral. Awareness of published ESOS compliance data was lower among smaller and first time participants.

This section presents the interim process evaluation findings, focusing on how participants have found the administrative requirements of complying with ESOS, looking at how supported participants felt regarding guidance and communications and the MESOS system. Evidence to inform these findings has been developed through the business survey and initial participant interviews.

Additional evidence on participant experiences from the remaining qualitative interviews, and new evidence on lead assessor experiences from qualitative interviews, will be added for the final evaluation report.

This section tests key Activities in the Theory of Change, most notably actions taken to communicate about the scheme effectively. This tests the assumption that participant buy-in to the scheme is vital for achieving energy savings, and that increased engagement in the scheme results in greater commitment to energy savings later in the process.

Communication - how and when participants found out about ESOS Phase 3

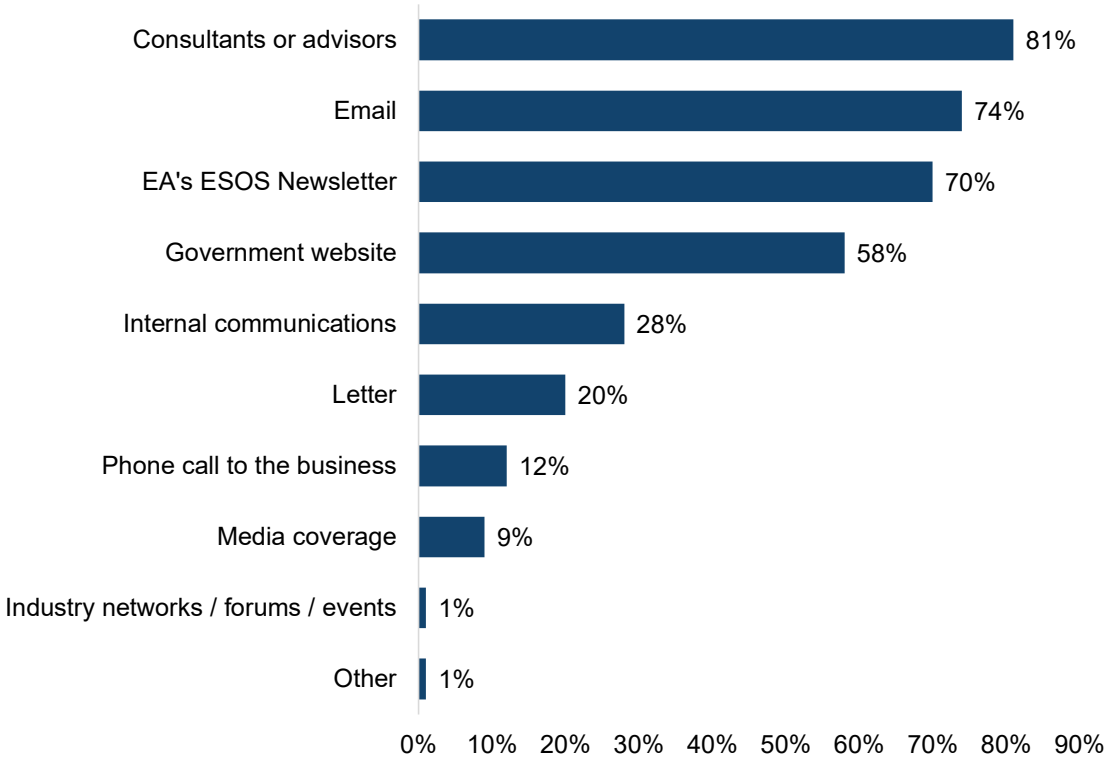
To help understand the experience of participants in context, we have provided an approximate timeline for Phase 3 of ESOS. DESNZ originally intended ESOS Phase 3 to follow the standard four-year cycle, with a compliance deadline in December 2023. However, delays in finalising the Phase 3 regulations meant that, in June 2023, the Environment Agency communicated on behalf of DESNZ that the compliance deadline would be extended to June 2024, providing participants and assessors with additional time to meet the new requirements. The Energy Savings Opportunity Scheme (Amendment) Regulations 2023 subsequently came into force in November 2023, with updated compliance guidance published on the same day.

The delayed introduction of the regulations also affected the timetable for launching Phase 3 functionality within the MESOS reporting system. Account registration functionality became available in March 2024, followed by notification of compliance functionality in April 2024. In communications to participants, the Environment Agency advised organisations to both register an account and submit their Phase 3 notification by the revised compliance deadline of June 2024. However, recognising the compressed implementation timetable, the Environment Agency confirmed that no enforcement action would be taken where organisations had registered an account by June 2024 and subsequently submitted their notification by August 2024. To support participants in meeting the new requirements, ESOS Phase 3 webinars were delivered in April 2024, with accompanying recordings and guidance materials made available through the ESOS newsletter.

Most ESOS participants became aware of the scheme through external channels, particularly consultants or advisers (81%), emails (74%), and the Environment Agency's ESOS newsletter (70%). Government websites were also a significant source (58%). In contrast, other sources were less prominent, with internal communications the next most common at 28%. Notably, there was significant overlap across these sources showing that most participants found out through multiple channels over time.

Around 12,000 letters were sent to potential participants to raise awareness of the scheme, but this was only referenced by 20% of participants in the survey.

Figure 4: Methods of communication which helped participants find out about ESOS Phase 3 changes



Source: A1. Which of the following methods of communication helped you find out about these changes? Base: All Participants (600). All listed answers other than industry networks' were prompted. 'Don't know' and 'none of these' not shown, each given by less than 1%.

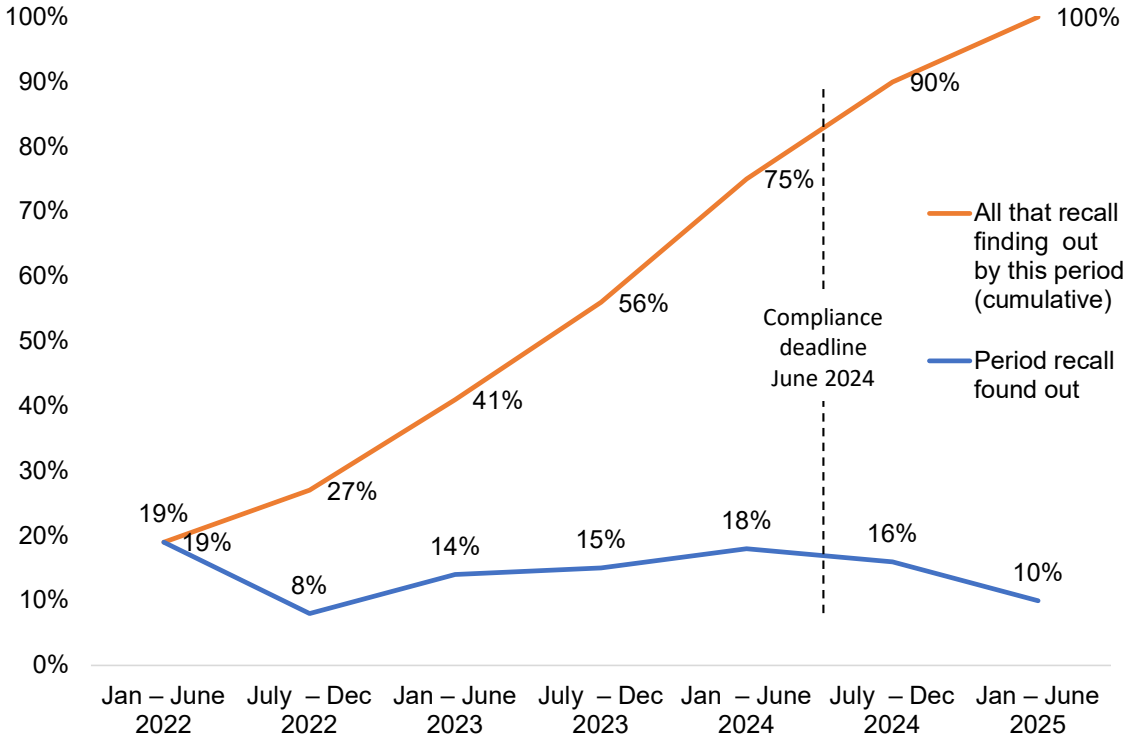
There were some differences according to the type of participant:

- Participants with high energy consumption (over 28,250 MWh) were more likely to have found out about the changes with help from the Environment Agency's ESOS newsletter (84% compared to 70% overall) and the government website (68% compared to 58% overall).
- Participants that had participated in previous ESOS phases were more likely to have found out about the changes with help from email (80% compared to 62% that did not) and the Environment Agency's ESOS newsletter (77% compared to 57%)[37], as well as being more likely to have found out with help from the government website (61% compared to 51%).
- Those that had not participated in previous ESOS phases were more likely to have found out with help from a letter from the Environment Agency (29% compared to 15% that did not).

By June 2024 (the ESOS Phase 3 compliance deadline), three-quarters (75%) of those that could recall when they heard about the requirements knew they were required to comply, as shown in Figure 5. Most commonly participants recalled hearing about the changes in the year to June 2024 (34%) but a quarter (25%) only recalled hearing about it in the year after the deadline (from July 2024). Almost a quarter (23%) of participants could not recall in which six-month period they found out that they were required to comply with the ESOS Phase 3.

[37] To note: Environment Agency ESOS newsletter is sent out via email. Some respondents may have selected email when thinking about the Environment Agency ESOS newsletter.

Figure 5: When Participants recalled finding out about ESOS Phase 3 requirements



Source: A2. Roughly when did you find out that your organisation was required to comply with ESOS Phase 3 requirements Base: Businesses that could recall when they found out (462). 'Don't know' excluded from base, answered by 23% of all Participants.

Participants were more likely to have found out about ESOS Phase 3 changes before the June 2024 deadline if they had:

- Turnover of over £100 million (83% compared to 69% with lower turnover).
- 1,000 or more employees (81% compared to 72% with fewer employees).
- Higher energy consumption (82% with consumption of over 3,250 MWh per year versus 75% with lower consumption).
- Participated in previous ESOS phases (82% compared to 62% that had not previously participated)

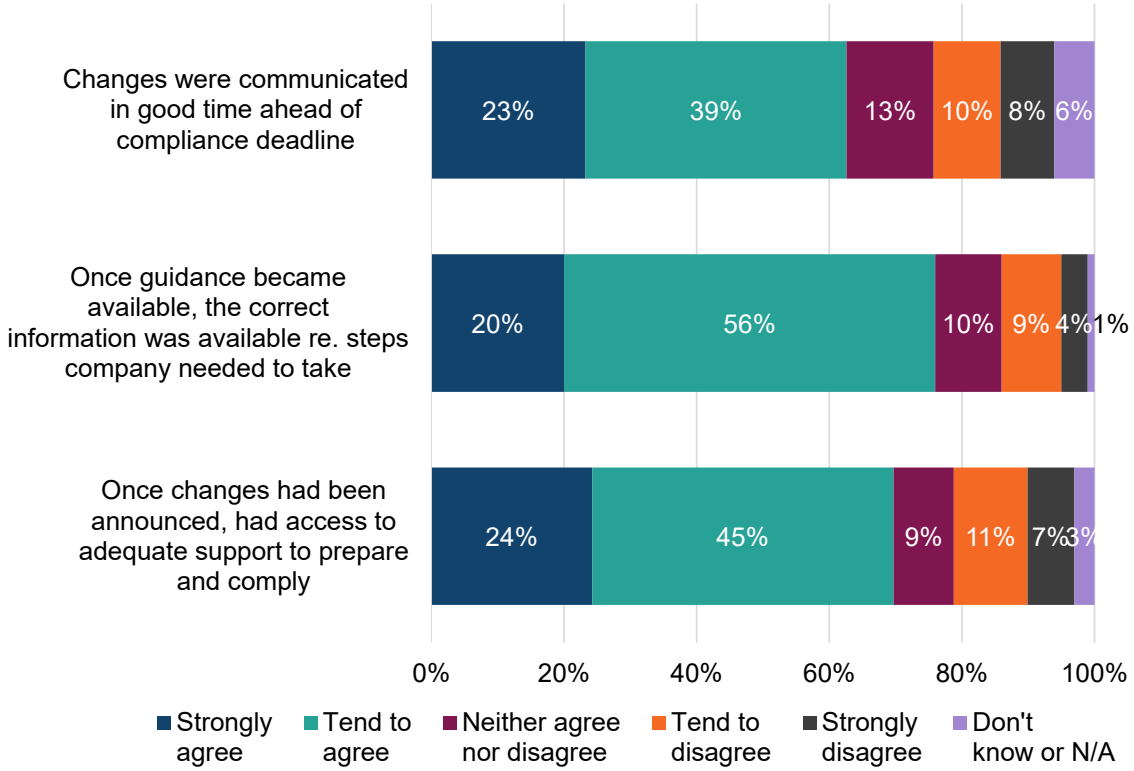
As this question relies on participants' retrospective recall, the findings may be subject to some recall bias, especially given the extended deadline and the passage of time between compliance and participation in the survey.

Preparation, guidance and support

Roughly two-thirds (62%) of participants agreed that the required changes for ESOS Phase 3 were communicated in good time ahead of the compliance deadline but 19% disagreed, as shown in Figure 6. Three-quarters (76%) of businesses agreed that once guidance became available, the correct information was available regarding the steps the company need to take, but around a tenth (13%) disagreed. Businesses were a little less likely to agree that once

changes had been announced they had access to adequate support to prepare and comply (69% agreed and 18% disagreed).

Figure 6: Views about timeline, guidance, and support to prepare for compliance



Source: A3. To what extent do you agree or disagree with the following statements about how the changes in ESOS Phase 3 were communicated? The changes were communicated in a good time ahead of the compliance deadline / Once guidance became available, the correct information was available regarding the steps my company needed to take / Once the changes had been announced, I had access to adequate support to prepare for and comply with ESOS Phase 3. Base: All Participants (600). 'Don't know' and 'N/A' included but not labelled, combined answered by 6%, 1%, 3% respectively.

Participants with higher energy consumption were more likely to be positive about the timeline, guidance and support to prepare for compliance. Those that consumed over 8,500 MWh per year were more likely to agree that changes were communicated in good time (69% versus 55% with lower consumption).

Participants that had participated in previous phases were more likely to agree with all three statements shown in Figure 6 (70% agreed that changes were communicated in good time compared to 47% who had not participated previously, 80% agreed that guidance provided the correct information compared to 69%, and 74% agreed that support was adequate compared to 61%). This may in part be explained by the fact that the Environment Agency was more likely to have direct contact details for the most relevant individual if the organisation had participated in previous phases.

In the qualitative interviews conducted so far, those that agreed that they had enough time to comply felt this was due to clear guidance on government platforms and receiving consistent communications and reminders, ensuring they had enough time to act or reach out to third party experts on how to comply if they felt they needed additional information.

> *"Emails were sent out with times from the Environment Agency directly, just to explain what the deadlines were and what not. So, there was plenty of time to comply in my opinion".*
> Participant, Took part in previous phases, Has rented sites

A few of those that felt that they had enough time noted that they likely benefitted from the previous experience of complying with previous ESOS phases. In a similar vein, those that disagreed they had sufficient time often pointed to being surprised that they needed to comply with ESOS.

> *"We hadn't heard of ESOS until an email was received at their Head Office. We didn't know we were already supposed to be partly compliant and we should have already done some work."*
> Participant, Took part in previous phases, Has rented sites

> *"If there had been good communication, we'd have known we were in scope. Communication from the government was very poor and it came as a massive surprise."*
> Participant, Did not take part in previous phases, Has rented sites

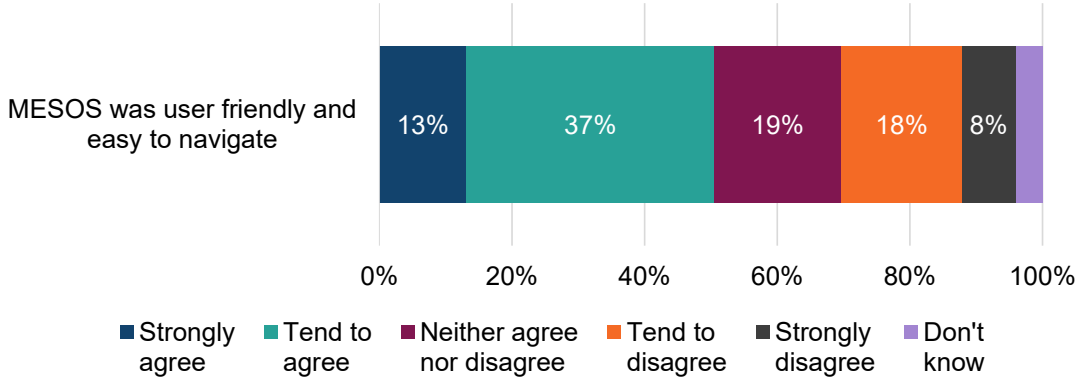
Whilst acknowledging there was government guidance, there was a sense from a few of those that disagreed they had sufficient time felt it was decentralised and participants had to 'seek it out'.

> *"I did not feel there was a single resource which provided really clear guidance… I had to rely on my lead assessor to transpose some of it."*
> Participant, Took part in previous phases, Has rented sites

Usefulness of the MESOS platform

Half (50%) of Participants agreed that MESOS, the new data submission portal, was user friendly and easy to navigate, including 13% that strongly agreed, as shown in Figure 7. Over a quarter (27%) disagreed, though only 8% strongly disagreed. There was little variance in views about MESOS between different types of participant.

Figure 7: Views about the usability of MESOS



Source: A5. In Phase 3 a new data submission portal was introduced called Manage your ESOS (MESOS) reporting. To what extent do you agree or disagree that MESOS was user friendly and easy to navigate? Base: All Participants (600). 'Don't know' included but not labelled, answered by 4%.

These sentiments were shared in the qualitative interviews, where participants noted that using the platform essentially equated to filling in a spreadsheet, and noted that they did not have to repeatedly input data as they had done on other similar platforms. There were a few participants who had difficulties with signing onto the platform, with some having frustrations with the authenticator app. However, other participants noted that it was straightforward providing you had an understanding of this technology, suggesting these examples may have been due to issues with lower digital familiarity.

Awareness of ESOS data published on GOV.UK

Just under two-thirds (64%) of businesses were aware of the ESOS compliance data published on GOV.UK, a third (32%) were not and 4% were unsure.

Participants with the lowest energy consumption of 900 MWh per year or lower were less likely to be aware (52% compared to 64% overall). Those who had not participated in previous ESOS phases or did not participate in any other energy efficiency or emissions-related schemes were also less likely to be aware (55% of both groups compared to 69% of those that had participated in previous phases and 67% of those that participate in other energy efficiency or emissions-related schemes).

To what extent has the assessor market in Phase 3 supported the needs of ESOS–obligated organisations?

Key findings

Almost all participants used external assessors. The key criteria they looked for in external assessors were predominantly experience and cost-effectiveness.

Around three quarters (77%) of participants reported that it was either very easy or easy to find a suitable lead assessor. Of those that reported it was difficult, the two most common reasons reported were limited availability of assessors (44%) and costs (30%).

This section presents the interim process evaluation findings focusing on how participants have found the assessor market in supporting ESOS Phase 3, looking at the ease of finding a suitable assessor, and the quality and usefulness of audits and recommendations. Evidence to inform these findings has been developed through the business survey and initial qualitative interviews.

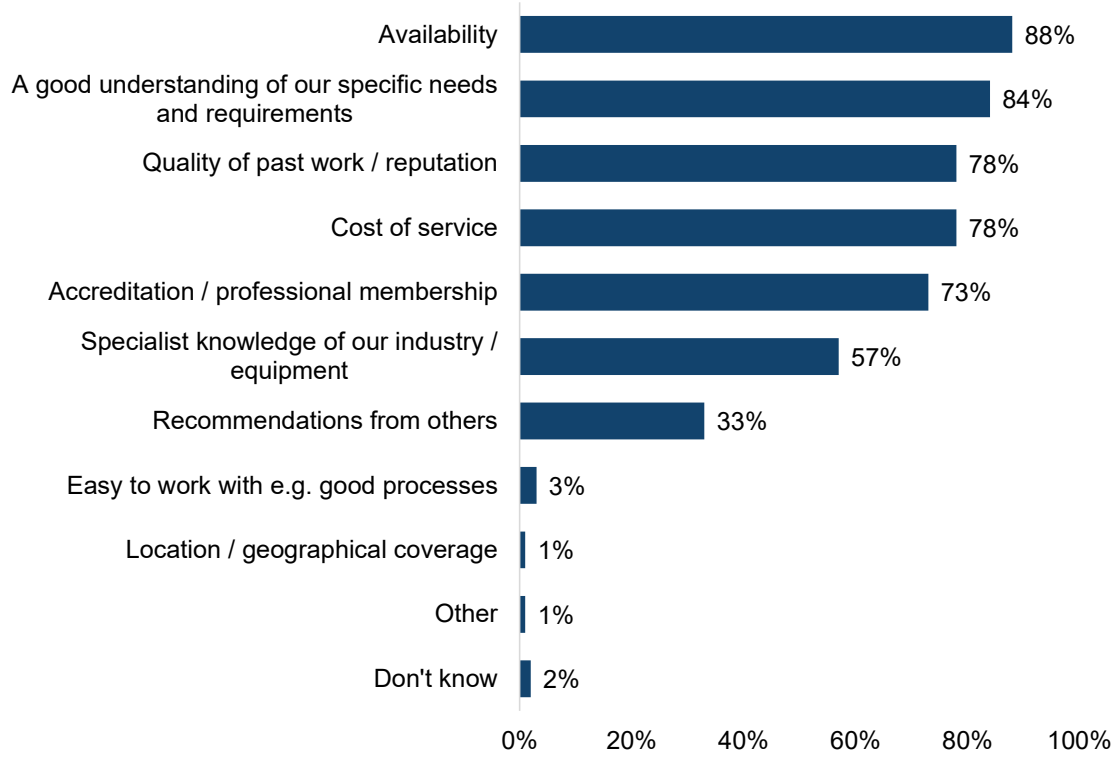
Given the reliance on assessors, the ToC assumes that the choice of assessors, and their ability to effectively carry out audits, is an important Activity for shaping energy saved later on as part of the scheme.

Ease of finding new assessors, suitability of assessors and repeat use of assessors

Almost all (96%) of those who conducted an audit report had an external lead assessor for their compliance with ESOS Phase 3.[38] This is similar to Phases 1 and 2 where 97-98% of participants' Lead Assessors were external to their organisation.[39] When participants selected their external assessor the following factors were most likely to be important; availability (88%), having a good understanding of their specific needs and requirements (84%), quality of past work or reputation (78%), cost (78%) and accreditation or professional membership (73%). This is shown in Figure 8.

[38] This includes 1% who had a lead assessor but were unsure if they were external or internal. This is lower than MESOS data which in December 2025 showed 98.5% of participants' lead assessors were external, so the survey sample slightly under-represents this group.
[39] Based on published data for Phases 1 and 2 available on GOV.UK, Energy Savings Opportunity Scheme

Figure 8: Importance of factors when selecting external lead assessors for ESOS Phase 3



Source: C6. Which of the following factors were important when selecting your lead assessor for your ESOS Phase 3 audit? Base: Those with lead assessors who were external or did not know if external or internal (537). Don't know not shown, 2%.

For participants in the highest quintile of energy consumption (>28,250 MWh per year), specialist knowledge of their industry or equipment was more likely to be important (76% compared to 57% overall). Accreditation or professional membership was more likely to be important for those with mid-level high energy use (83% for those that consume 3,250-8,500 MWh per year compared to 73% overall).[40]

For those that participated in previous phases, they were more likely to consider quality of past work or reputation (81% compared to 72% overall) or whether assessors had specialist knowledge (62% compared to 49% who had not).

These factors were noted in the qualitative interviews as well, with participants generally pointing to identifying experienced assessors either through previous work directly or from third party advice. Several participants highlighted cost concerns, especially amongst those that had already considered energy saving opportunities, as they felt they didn't need to spend substantially on auditors as they had already completed much of the work the audit report would do.

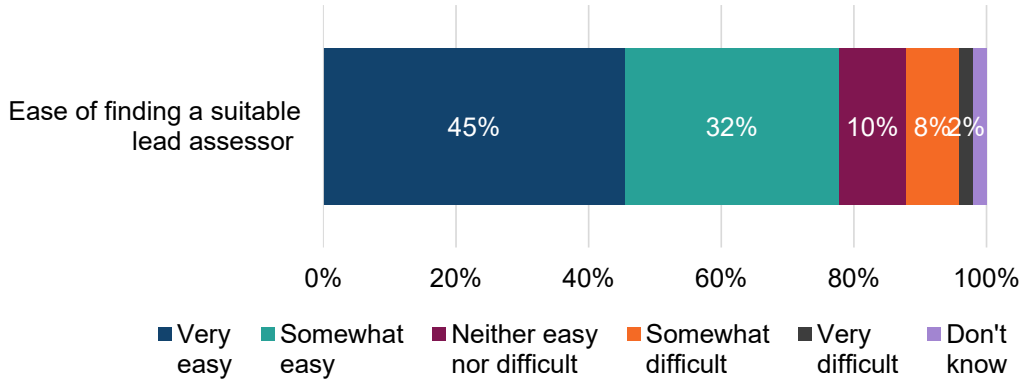
[40] The base of those using 900 MWh or less is n=44 so this finding should be treated as indicative and used with caution.

> *"We knew we had to do a lot of energy saving and we'd already put plans in place for it. And so we took the view of we want to comply with the regulation, but we don't want it to cost us."*
> Participant, Did not take part in previous phases, Has rented sites

A few participants explained that it was desirable to use an auditor that was close to their business premises. Several looked to have an assessor more locally, both for logistical reasons (in case in person meetings were required) or in an effort to support local businesses.

Three-quarters (77%) of Participants that had external lead assessors found it easy to find them, with 45% finding it very easy, as shown in Figure 9. Ten percent found it difficult, though only 2% very difficult.

Figure 9: Ease of finding a suitable external lead assessor



Source: C3. How easy or difficult was it for your organisation to find a suitable lead assessor for your ESOS Phase 3 audit? Base: Those with lead assessors who were external or did not know if external or internal (538). Don't know shown but not labelled, 2%.

As few participants had difficulties finding assessors, the reasons for and impacts of this can only be reported from a small number (n=54) of participants.[41] They reported that the main reason for difficulty was limited availability of assessors (44%), costs (30%), insufficient time to identify an assessor (27%) and lack of assessors with relevant industry knowledge (25%).

Most agreed that this situation increased internal workload (85%) and led to assessors costing above the market rate (53%), and a few that this led to compromise on the assessor's relevance to their industry (26%) or their quality (22%).

[41] This low base means these findings should be treated as indicative and used with caution and are presented as unweighted counts.

Audit quality – perception of audit quality, poor quality issues, usefulness of audits

Key findings

Three-quarters of participants required to undertake an energy audit were satisfied with its overall quality, including a third that were very satisfied.

71% of participants agreed that their audit report provided helpful insights on their organisation's pattern of energy consumption, whilst 54% agreed that it provided new information that they would not have acquired without the audit. Almost all (98-99%) of participants required to undertake an audit reported receiving at least some energy saving recommendations. Three-quarters (74%) of participants felt that these recommendations for reducing the organisation's energy use were useful.

These recommendations would save 36 TWh per year, which equates to a meaningful proportion (7%) of participants' energy consumption. However, fewer savings were identified by audits than had been envisaged when ESOS was first introduced (among buildings and industrial energy, 43 TWh, equivalent to 14% savings).

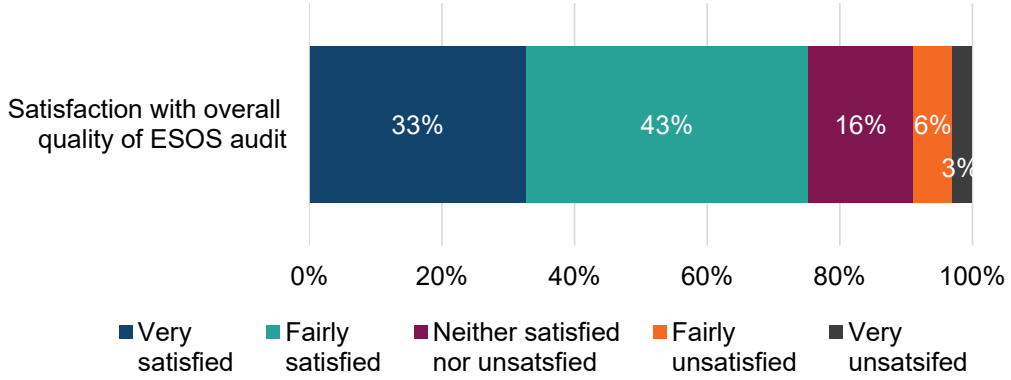
Analysis of MESOS data suggests that, by 12 December 2025, 84% of participants had submitted Action Plans, which outline 30,000 measures (figures rounded to the nearest 100) which could provide energy savings, estimated at 16.3 TWh of savings by 2027.

The audit forms the basis of energy saving recommendations, and the ToC sets out that a high-quality and tailored audit should help to identify useful energy saving recommendations, which in turn should then lead to uptake of measures by participants. Requirements have been strengthened as part of Phase 3 to ensure that audits are higher-quality and contain information that is more useful and actionable to participants.

Perceptions of audit quality

Three-quarters (76%) of participants required to undertake an energy audit were satisfied with its overall quality. This includes 33% that were very satisfied, as shown in Figure 10. Around a tenth (8%) were unsatisfied, including 3% that were very unsatisfied.

Figure 10: Satisfaction with the overall quality of ESOS audit



Source: D3. How satisfied were you with the overall quality of your ESOS audit? Base: Those required to undertake ESOS audits (562).

Participants with the highest energy consumption levels were less likely to be satisfied with the quality of their audit (69% of those with over 28,250 MWh per year compared to 76% overall). Participants that had participated in previous ESOS phases were more likely to be satisfied with the quality of audit, 78% compared to 70% for those that had not participated previously (though this difference is not significant).

There were no notable differences in satisfaction between multi- and single-site organisations or those with all owned versus rented sites.

In the qualitative interviews, participants that reported high-quality audit reports noted findings that were concise with clear recommendations with quantifiable benefits. Additionally, several noted the ability to have clear communications with their assessor appeared to enable a good feedback loop that improved the overall process.

> *"We had a lot of feedback on the content ...They'd write up the report and share it for comment …It was all very understandable and we always had recourse back to the lead assessor if there was any query. "*
> Participant, Took part in previous phases, Has rented sites

Several others have categorised their assessment as adequate, flagging that the audit report covered the necessary information but that it lacked deeper investigation. Currently, there has only been one participant in qualitative interviews who reported having a poor-quality audit. Their frustration was that they needed a more specialised assessor.

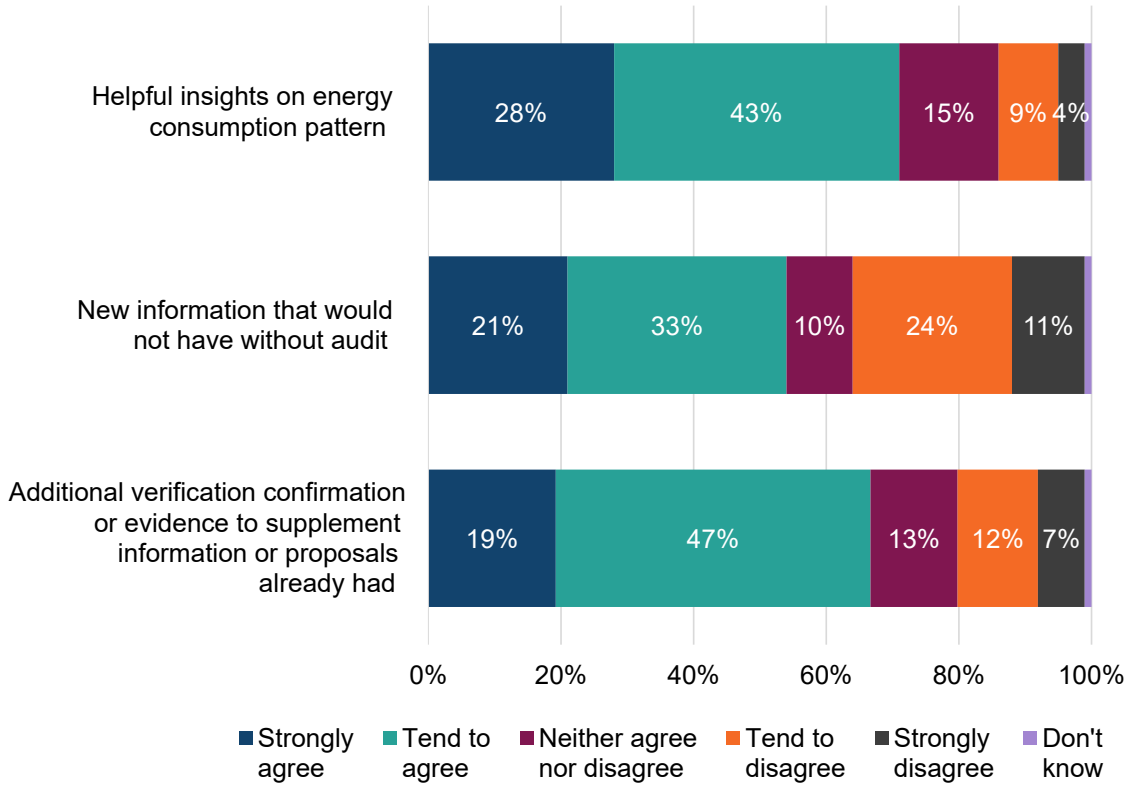
For this participant, they wanted to just get the audit report completed, so they did not consider options in terms of improving the report. Additionally, given the participant's organisation was in the manufacturing sector and the assessor lacked specific enough understanding of their business, they felt that there was not a clear and efficient way to adapt under the time pressure.

Usefulness of audit

Positively, 71% of participants required to undertake an ESOS audit agreed that their ESOS audit report provided helpful insights on their organisation's pattern of energy consumption, though 13% disagreed this was the case, as shown in Figure 11.

Over half (54%) of those that were required to undertake an audit agreed that the report provided new information that they would not have acquired without the audit, but over a third (35%) disagreed. Two-thirds (66%) agreed that the audit report provided additional verification, confirmation or evidence to supplement the information or proposals they already had, and 19% disagreed.

Figure 11: Extent to which the audit provided new or useful information



Source: D1. To what extent do you agree or disagree that: The audit report provided by your lead assessor provided: helpful insights on organisation's pattern of energy consumption? / new information that you would not have gotten without the audit? / additional verification confirmation or evidence to supplement information or proposals you already had? Base: Those required to undertake an ESOS audit (562). Don't know included but not labelled, 1% for each iteration.

Participants in the highest energy consumption quintile (over 28,250 MWh per year) were less likely to agree that the report provided helpful insights on energy consumption patterns (58% compared to 71% overall) and new information (41% compared to 54% overall). This may be because they had significant in-house expertise, and had already made efforts to reduce unnecessary energy consumption.

Similarly, those that signed up to Climate Change Agreements were more likely to disagree that their audit reports provided new information, 47% compared to 33% that had not signed up, possibly flagging overlap with other energy efficiency schemes. Participants were more

likely to agree their ESOS audit reports provided additional verification, confirmation, or evidence to supplement information they already had if they were a part of Carbon Reduction Plans for large public contracts (79% compared to 64%). There were no significant differences in views on whether the report provided new or useful information between those that had and had not participated in previous ESOS phases.

In the qualitative interviews, participants that agreed that their report was useful pointed to specific measures that the report had identified or simple habits that impacted energy saving (such as lighting sensors or leaving machinery on throughout the day).

> *"We'd thought a Building Management System (BMS) would mean a lot of wiring but we learnt that you can do it all via WiFi and apps… so you can control a building without so much disruption of retrofitting."*
> Participant, Took part in previous phases, Has rented sites

Others were positive about the report providing credibility to discussions that had already taken place internally. However, it should be noted that for some, there was frustration with being told something they were already aware of, as opposed to seeing it as adding value.

> *"It's cost us money to tell us things we already know. All the things in the audit report we know."*
> Participant, Took part in previous phases, Has rented sites

Just over a quarter (27%) of participants that had an audit thought that something could have been done differently by either the assessor (18%) or themselves (17%) that would have improved the usefulness of the audit report.

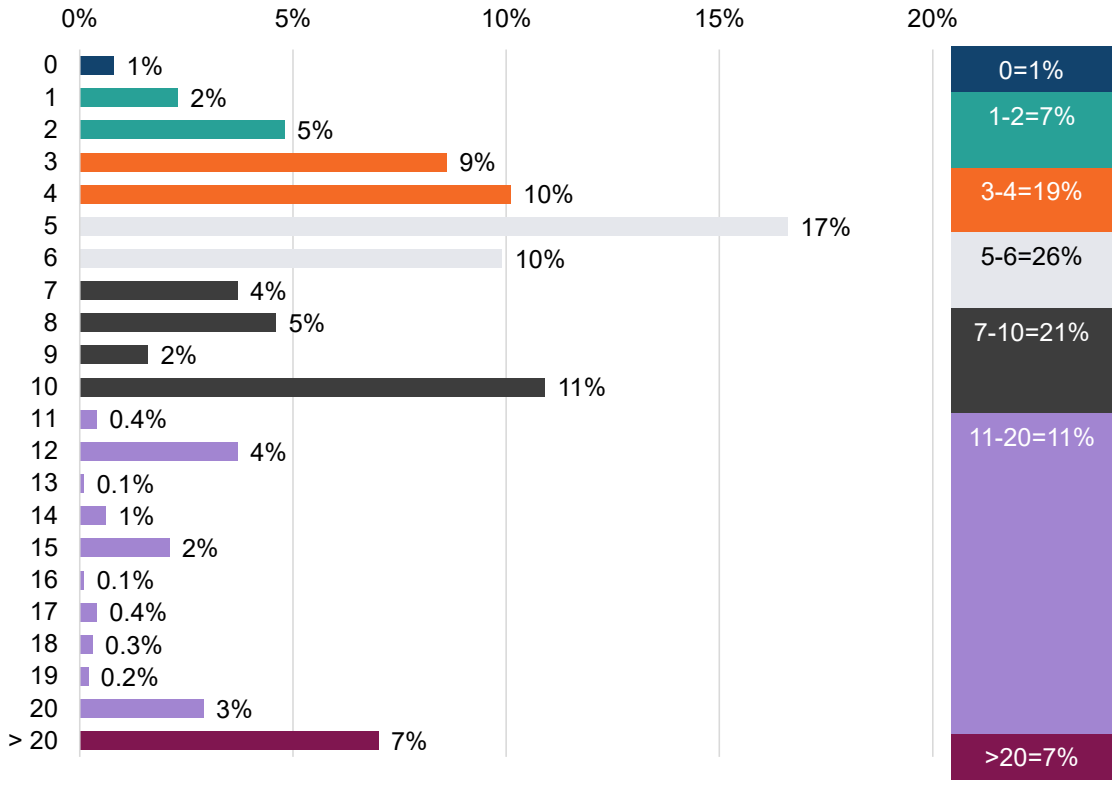
- Amongst those who thought the assessor could have improved the usefulness of the report, the most common changes they thought could have made to improve its usefulness were: analysis and recommendations more tailored to their specific business and energy needs (48%); a better quality report (22%); better information on how to take recommendations forward (18%) more questioning to better understand their business (17%); or conducted more site visits (15%).
- Amongst those who thought they (the participant) could have improved the usefulness of the report, the most common changes they thought could have improved it were: spending more time helping the assessor understand their specific needs and requirements (37%); giving the assessor more time and resources (28%); providing more or better data to the assessor (25%); and spending more time reviewing previous audit reports and actioning accordingly (20%).[42]

[42] As few businesses thought they could have done something differently to make the report more useful this can only be reported from a small number (n=36) of businesses. This low base means these findings should be treated as indicative and used with caution.

Volume of recommendations

Almost all participants (99%) that had an audit report said it contained at least one energy saving measure.[43] Two-thirds (66%) of participants that had an audit reported that between three and ten potential energy saving measures were referenced in their ESOS report, with around half (47%) having between 5 and 10. A full breakdown is shown in Figure 12. The median number of measures recommended was 6, and the mean number of measures was 13, due to a smaller number of participants with much higher numbers of measures recommended. For the final report, this will be corroborated by the audit review findings, which will look at a sample of audits to understand measures identified.

Figure 12: Number of potential energy saving measures assessor referenced in ESOS audit report



Source: D1bnum (2). Roughly how many potential energy saving measures did your assessor reference in the ESOS report? Base: Those required to undertake ESOS audit (562). Don't know not shown, 8%.

Survey analysis suggests that the following groups of participants were more likely to have higher numbers of measures referenced:

- Those with higher energy consumption (average of 19 measures for those with consumption over 28,250 MWh per year and average of 15 for those with 8,500 to 28,250 MWh per year, compared to six for those with consumption of 900 MWh or less).

[43] Published NOC data from February 2026 suggests a similarly high figure. Of participants that qualified for ESOS, were responsible for >40MWh, and complied using energy audits for at least 1% of their energy, 98% reported at least some energy saving opportunities.

- Participants in voluntary schemes (average of 15 measures compared to 10 for those that did not participate).
- Those with multiple sites (average of 13 measures compared to seven for those with single sites).

Analysis of NOC data from MESOS shows that measures identified by audits (i.e. energy saving opportunities) amounted to 36.0 TWh of possible annual energy savings, equivalent to 7% of annual energy consumption.[44] The original 2014 Impact Assessment associated with ESOS regulations estimated that, from buildings and industrial processes alone, audit recommendations would constitute 43 TWh of annual savings[45], equivalent to 14% of annual energy consumption from these two sectors[46]. So although Phase 3 audits identified a meaningful amount of possible energy savings, fewer savings were identified than had been envisaged at the scheme's outset.

The evaluation cannot say whether Phase 3 identified fewer energy saving opportunities than previous phases, as the MESOS data is new to Phase 3 and the previous evaluation did not attempt to measure the scale of energy saving opportunities identified. However, recent research[47] suggests that, for industrial processes at least, fewer energy efficiency savings are available than in 2015. This is borne in mind later in the report when achieved energy savings due to Phase 3 are compared to the previous evaluation of Phase 1.

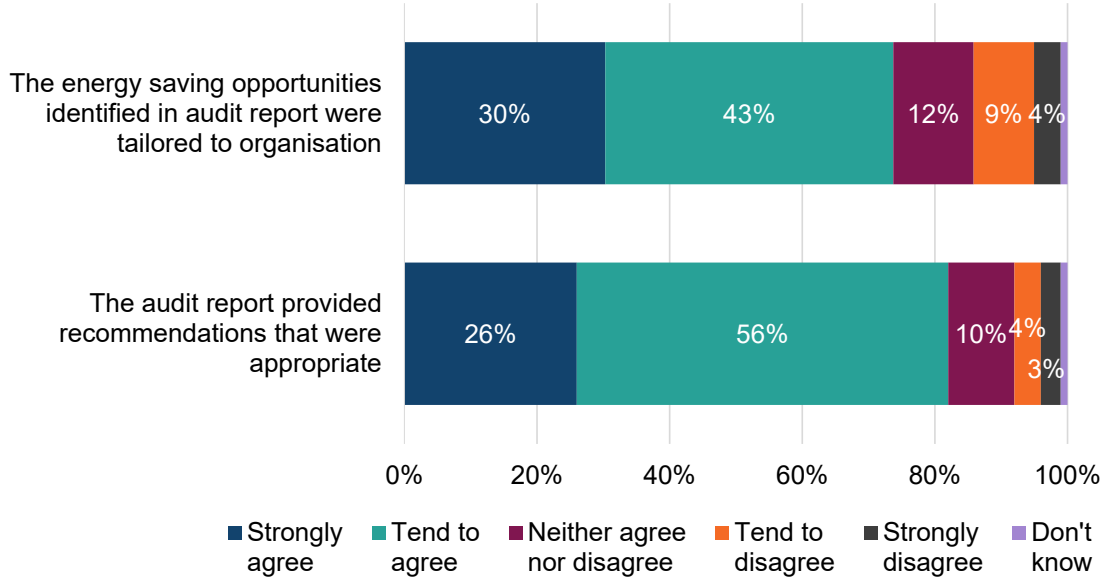
Extent to which recommendations were appropriate

Almost three-quarters of participants who were required to undertake an ESOS audit (73%) agreed that the energy saving opportunities identified in their audit report were tailored to their organisation, with 30% strongly agreeing as shown in Figure 13. Thirteen percent disagreed they were tailored.

Participants were more likely to agree the audit report provided recommendations that were appropriate (83%), and 26% strongly agreed. Only 7% of participants disagreed. Direct comparisons are not possible with the previous evaluation due to different question wording, but 71% of participants in Phase 1 were satisfied with the suitability of recommendations in their audit report.[48]

[44] NOC data shows 507 TWh of energy consumption in 2022/23.
[45] The Impact Assessment took the total technical potential for energy efficiency and excluded types of measures with average payback of greater than two years. A stated assumption in the Impact Assessment is that all measures with a payback of two years or less would be recommended in ESOS audits.
[46] 43 TWh referenced on page 35; 168 TWh energy consumption from buildings and 137 TWh consumption from industrial processes referenced on page 37 of the impact assessment. If Phase 3 data is restricted to only industrial and buildings energy, 22.32 TWh of energy savings opportunities were identified (figure 35), equivalent to 7.4% of 302 TWh consumption (table 7).
[47] DESNZ (2026) 'Updating evidence on energy efficiency potential for UK industry'
[48] BEIS (2017) 'Evaluation of ESOS Interim process and early impact evaluation report', page 33

Figure 13: Whether audit report provided tailored and appropriate recommendations



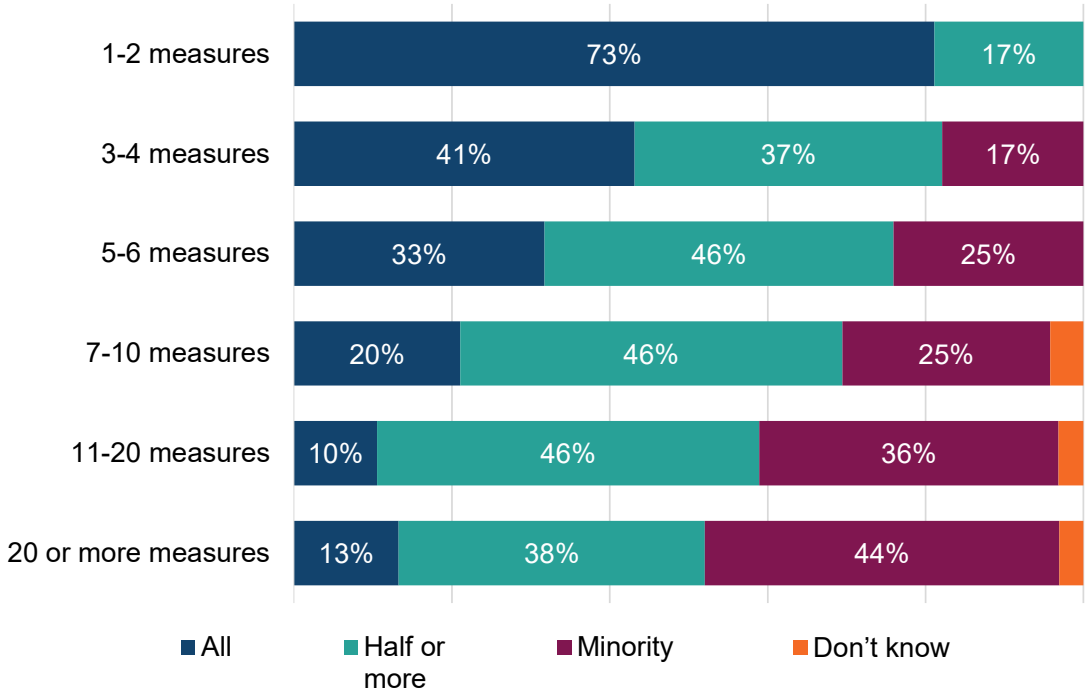
Source: D1D. To what extent do you agree or disagree that; the energy saving opportunities identified in your audit report were tailored to your organisation? / The audit report provided recommendations that were appropriate. Base: Those required to undertake ESOS audit (562). Don't know included but not labelled, 1% for both iterations.

Participants with mid-level energy consumption levels were more likely to be positive about both these aspects. Amongst those with consumption of more than 900 and up to 3,250 MWh per year, three quarters (82%) agreed the identified opportunities were tailored.

Whether previously considered audit recommendations

Over four-fifths (85%) of participants that required an audit had previously considered at least some of the potential energy saving measures referenced in their report. Just over a quarter (28%) had previously considered all the measures referenced. Figure 14 shows a breakdown of this by number of measures considered.

Figure 14: Proportion of potential energy saving measures referenced in ESOS audit report which business had previously considered (grouped by total number of measures recommended)



Source: D1bnum. Roughly how many potential energy saving measures did your assessor reference in the ESOS report? / D1cnum Of these, roughly how many had you already considered previously? Base: Those with required to undertake an ESOS audit (562).

Participants that had signed up to a Climate Change Agreement (CCA) were more likely to have previously considered all (37% compared to 26% that had not participated), which could be due to the need to meet a CCA target or because those with a CCA generally have more mature energy management practices.

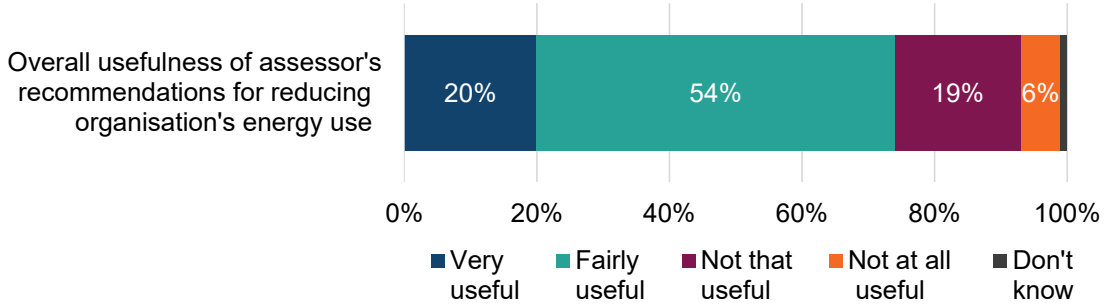
Participants with multiple sites were less likely to have previously considered all measures, 24% compared to 37% of those with a single site, potentially due to the wider range of possible measures across multiple sites.

Those with lower consumption of 900 MWh per year and those that had not participated in previous ESOS phases were more likely to not have previously considered any of the measures (13% and 9% respectively compared to 2% of both those with higher consumption and previous participants).

Usefulness of recommendations

Three quarters (74%) of participants felt that the assessor's recommendations for reducing the organisation's energy use were useful, including 20% who found them very useful as shown in Figure 15. A quarter (25%) did not find them useful.

Figure 15: Usefulness of assessor's recommendations



Source: D2. Overall, how useful do you believe the assessor's recommendations for reducing the organisation's energy usage to be? Base: Those required to undertake ESOS audit (562). Don't know included but not labelled, 1%.

Inclusion of recommendations in action plans

One step in the causal sequence of ESOS saving energy is for businesses to take forward and implement the measures identified in the audit. Action Plan submissions, new to Phase 3, set out participants' intended energy saving measures up to December 2027[49], including measures not recommended in audits. This data allows us to assess the level of drop-out between actions being recommended by an energy assessor and accepted by the business. (Later sections assess whether ESOS was the driving factor behind these actions being planned and whether the plans have materialised in actual energy savings.)

Analysis of MESOS data suggests that, by 12 December 2025, 85% of organisations who submitted a NOC had submitted Action Plans[50], and 72% had submitted an Action Plan that contained at least one measure, and 62% submitted Action Plans with at least one measure that had been recommended in their audit.[51] Assuming those who did not submit an Action Plan had no actions planned, this means 38% of participants did not take forward any of the measures recommended in their audit.

In total, the Action Plans outline approximately 30,000[52,53] measures projected to cumulatively save 16.3 TWh of energy by the end of Phase 3. If all measures were implemented for a whole year (i.e. the annualised savings), they would generate 9.3 TWh. 21,800 of these (73%) were measures recommended in the ESOS audit. On an energy saving basis, though, the measures taken forward from the audit make up a smaller proportion (48%) of all energy savings from Action Plan measures (7.8 TWh over the Phase 3 period, or 4.9 TWh annualised). This provisionally suggests that the most impactful measures were identified outside of the ESOS auditing process. The final report will assess any differences between ESOS audit-recommended measures and those identified outside of audits. Provisional analysis of the non-audit measures with the largest purported energy savings show a number of fuel switching

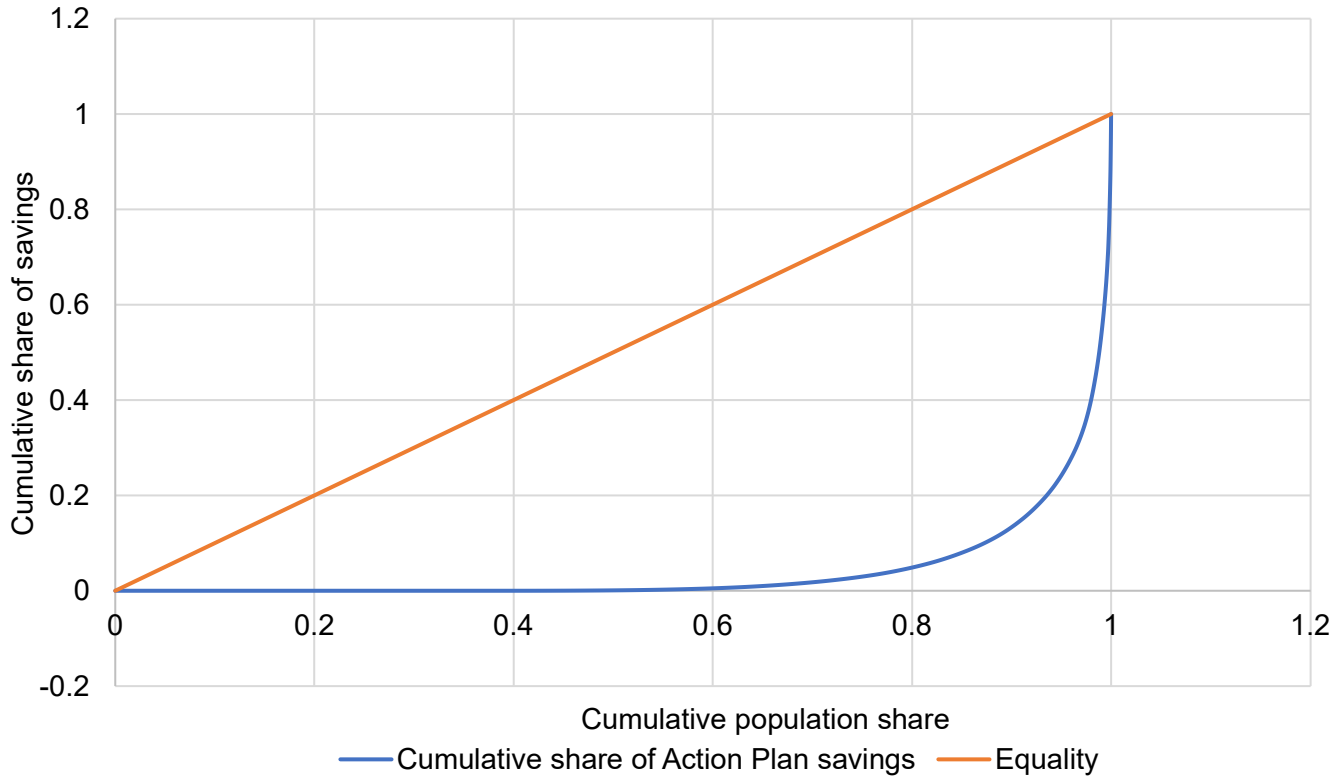
[49] In some cases this includes measures that were implemented after the original NOC deadline of December 2023 but before the Action Plan was submitted.
[50] Including Action Plans which had 0 measure or where all measures were excluded from the analysis)
[51] In MESOS, after entering the name of the measure, participants have to record whether the measure is a result of an 'energy savings opportunity' reported in an energy audit.
[52] Figures rounded to the nearest 100.
[53] Exclusions applied – see Methodology.

measures where it is not clear how energy consumption would reduce (e.g. switching from fossil fuels to hydrogen and biogas). As such, despite the purported energy savings reported, some of these measures may not in fact be energy efficiency measures and are therefore outside the scope of ESOS audits. In addition, the savings for measures identified outside of the audit may not have been verified by a qualified individual.

As reported earlier, the ESOS audits themselves identified 36.0 TWh of annual energy savings, so assuming participants who did not submit an Action Plan did not commit to any energy saving measures, only 14% of the total magnitude of energy saving opportunities identified in the ESOS audits were carried forward for the Phase 3 Action Plans (see Figure 35 for a breakdown of the energy saving opportunities identified).

Participants included in their Action Plans on average (mean) 3.4 measures that came from the ESOS audit. The bulk of these savings came from a small proportion of participants. As shown in Figure 16 below, the 10% of participants with the highest projected energy savings[54] made up 87% of all projected savings from measures that came from the ESOS audit.

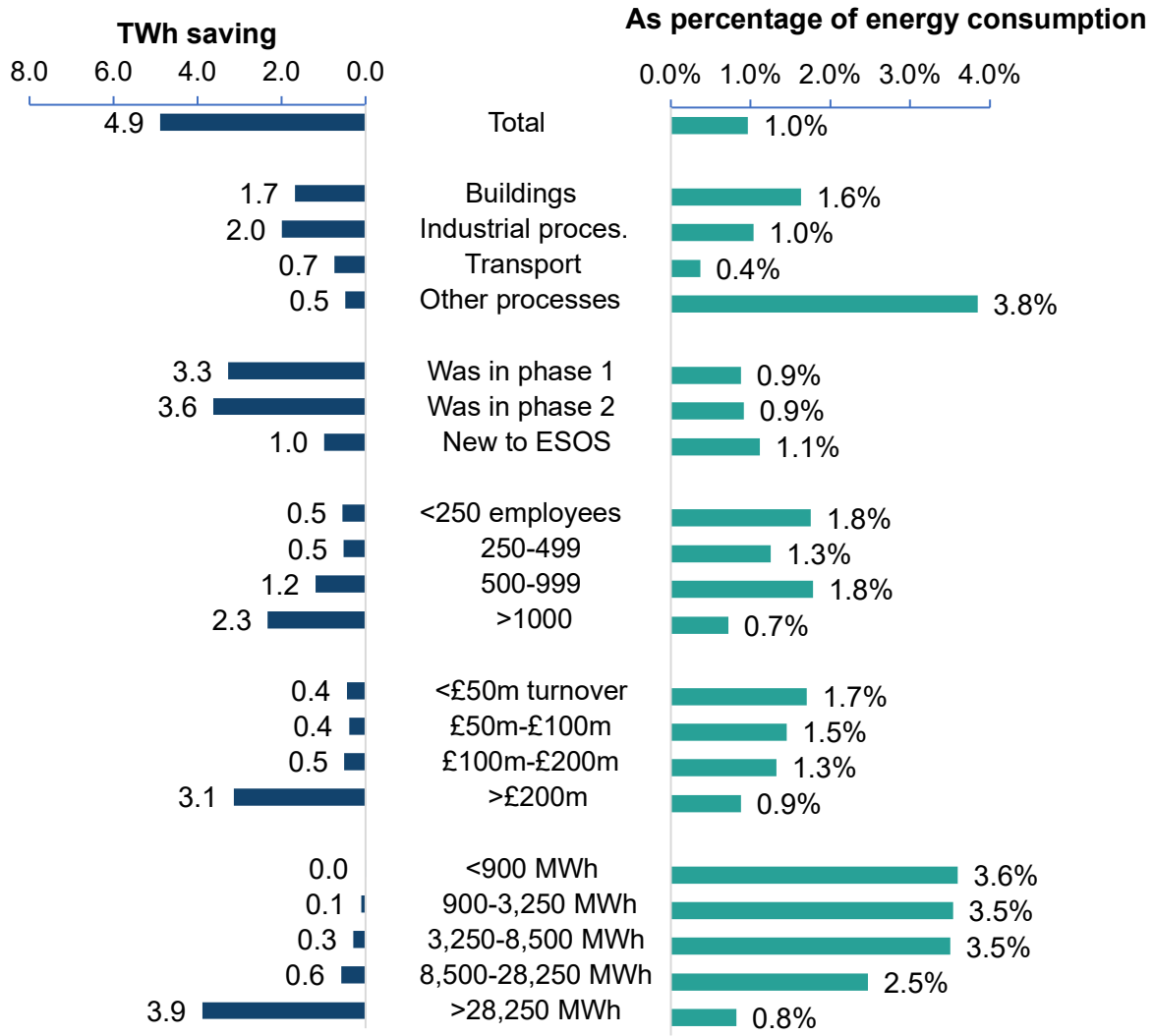
Figure 16: Lorenz curve for the distribution of the energy savings 2023-2027 from Action Plan measures identified in the original ESOS audit across ESOS Phase 3 participants (assuming participants who did not submit an Action Plan did not commit to any savings)



[54] Assuming those who did not submit an Action Plan had no savings

Of ESOS audit measures that made it into Action Plans, the majority relate to buildings (1.7 TWh annually, representing 74% of measures), but the largest amount of energy savings are projected to come from measures for industrial processes (2.0 TWh, representing 41% of all projected energy savings).

Figure 17: Annualised energy savings from measures outlined in the Action Plans and which came from the audit



Source: Action Plan and Notification of Compliance data. Excludes measures not recommended in the audit. Energy consumption includes participants who did not submit an action plan. TWh savings will not sum to the total for previous phase participation (participants can be in both the in phase 1 and in phase 2 groups) and for the headcount and turnover breaks due to some participants having unknown figures.

As shown in Figure 17, there is often an inverse relationship between which companies commit the most ESOS-related energy savings to their action plans and how much this represents of their energy consumption. For instance, those with turnover above £200m committed to audit-related measures estimated to generate 3.1 TWh savings per year, many times higher than the amount (0.4 TWh) committed by those with turnover below £50m. Yet as a percentage of their annual energy consumption, these savings were larger for companies with lower turnover (1.7%) than those with higher turnover (0.9%). The same is true for previous participation in the scheme: more energy savings in TWh terms were committed to by previous ESOS participants than those new to the scheme (3.9 TWh compared to 1.0 TWh), yet this reverses

when represented as a fraction of their energy consumption (0.9% vs 1.1%). The relationship is less clear when company size is defined by the number of employees, but the largest companies still commit to the most savings (2.3TWh) and this makes up the smallest proportion of total energy consumption (0.7%).

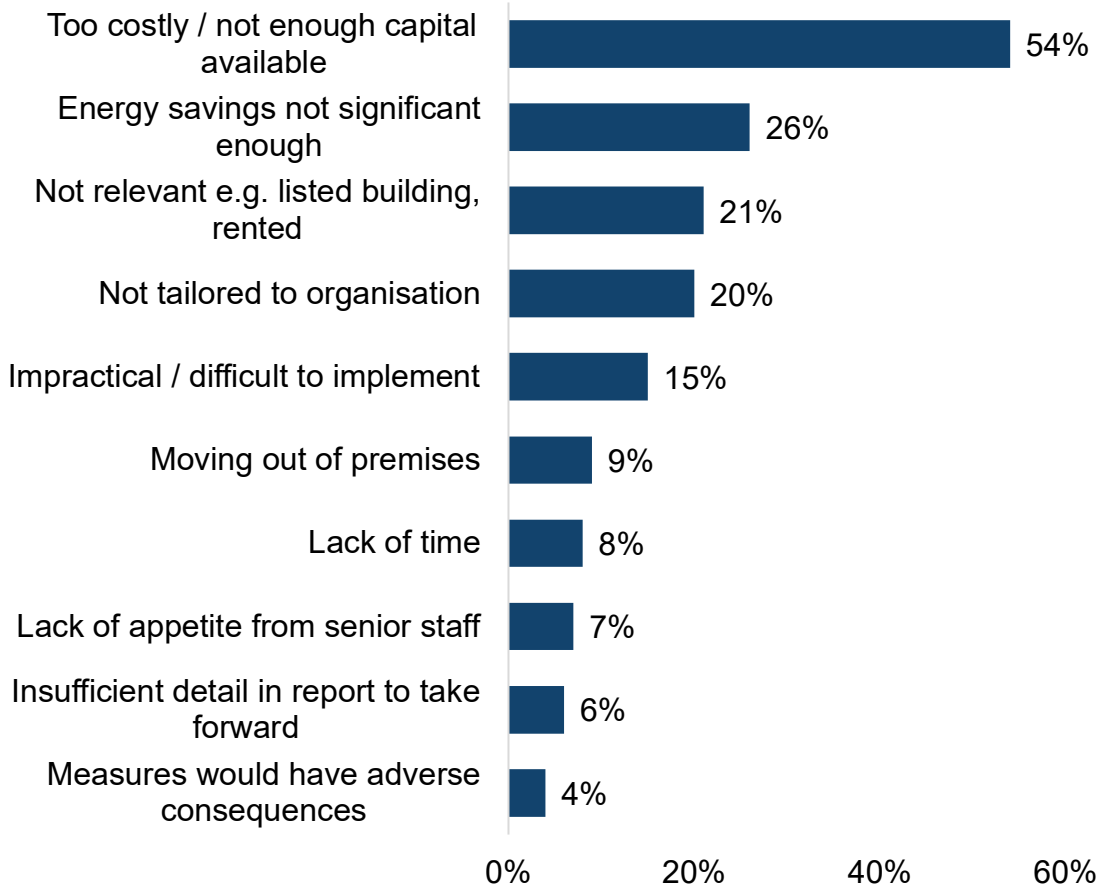
Overall, this lends support to the hypothesis that larger organisations, who may have more mature energy management practices and who are more likely to have participated in ESOS previously, gain less value from measures recommended in ESOS audits than smaller organisations, relative to their size. However, larger organisations and those that have participated in ESOS previously do still take forward measures from audit reports into their action plans and this represents a considerable amount of potential savings. See 'Annex 6: Supplementary statistics from MESOS analysis' for a more detailed breakdown of the Action Plan data.

Decision-making around committing to energy saving measures

The business survey provides further insight about why certain measures may have been taken forward throughout the various stages of ESOS, and why some were not.

In the business survey, cost was given as the most common reason for participants not committing to all their audit recommendations in an action plan. As shown in Figure 18, 54% of participants that did not take forward at least one recommendation (equating to 38% of participants that were required to undertake an ESOS audit overall) said cost or lack of capital available was a factor. Energy savings not being significant enough was a reason for 26% of these participants.

Figure 18: Reasons for not including some or all measures from audit report in Action Plan (or not completing an Action Plan)



Source: D2f. What are the primary reasons for not including (some/all) measures from your audit report in your action plan? Base: Those that did not put all measures referenced in their ESOS audit report in their action plan or had no action plan (395). Answers given by less than 2% not shown. Don't know, and refused not shown, 1%, <1% respectively.

Amongst participants that did not put all recommendations referenced in their audit report in their action plan (or had no action plan) around a fifth reported that their recommendations were not relevant (21%) with a similar number stating they were not tailored to their organisation (20%). Participants with rented properties were more likely to report that this was because the recommendations were not relevant, 25% compared to 5% of those without rented properties. Those that explicitly noted that they were unable to change the building fabric and heating/lighting in rented sites were more likely to state that their recommendations were not relevant to their organisation (29% compared to 21% average).

All of this group that were given recommendations for rented sites that they could not amend included physical measures. These related to lighting systems (80%), heating systems (69%), cooling systems (50%), solar panels (36%) or the building fabric (28%). This likely explains why they were more likely to feel their recommendations were not relevant.

Does ESOS affect organisations' decisions to implement energy saving measures?

Key findings

There are mixed perceptions and evidence about the extent to which ESOS leads to increased awareness and motivation to act.

Whilst the previous section outlined that most (71%) participants found the audit provided helpful insights on their organisation's pattern of energy consumption, fewer report that ESOS Phase 3 led to increased awareness of energy use and efficiency amongst both responsible individuals (44%) and senior staff (43%).

In contrast, larger proportions of participants felt Phase 3 increased internal pressure to improve energy efficiency (58%) and reduce energy use (50%).

Four out of five (79%) participants claimed that they would have conducted some kind of energy audit anyway in the absence of ESOS Phase 3, a figure which was higher for those with higher annual energy consumption.

Around half (58%) of Action Plan measures were attributed at least in part to ESOS. Three-quarters of participants attributed at least one of their Action Plan measures to ESOS.

This section sets out the extent to which ESOS Phase 3 leads to awareness and pressure for participating organisations, both internally and externally. We will then examine the extent to which this translated into tangible commitments on energy use and efficiency as a result.

Related to the Theory of Change, this section tests the 'Outcomes', and the extent to which the earlier Activities as part of ESOS have translated into these Outcomes. These Outcomes include increased knowledge within organisations, a sense of internal and external scrutiny, and the extent to which a behavioural drive towards actions on energy savings has been created. It thereby tests the mechanisms by which ESOS is expected to generate impact.

Perceptions of Phase 3 changes on energy savings identified and usefulness of ESOS

Perceptions around the value of ESOS Phase 3 in raising awareness of company energy use and efficiency were mixed. Whilst 44% agreed that ESOS Phase 3 had led to increased awareness amongst staff responsible for energy management, 34% disagreed with this. The figures were similar in relation to whether ESOS Phase 3 had raised awareness amongst senior leaders (43% agree, 32% disagree). These results are similar to the findings from the ESOS evaluation of Phase 1 which reported an increased level of interest in energy efficiency

for the organisation overall (44%) and at a board-level (43%).[55] Notably, companies in the top 20% of energy users are significantly less likely than other size groups to agree that awareness had been raised amongst staff, with just 32% agreeing with the statement.[56] This would suggest that for companies with high energy use, ESOS provides less value in raising awareness, potentially because awareness is already high.

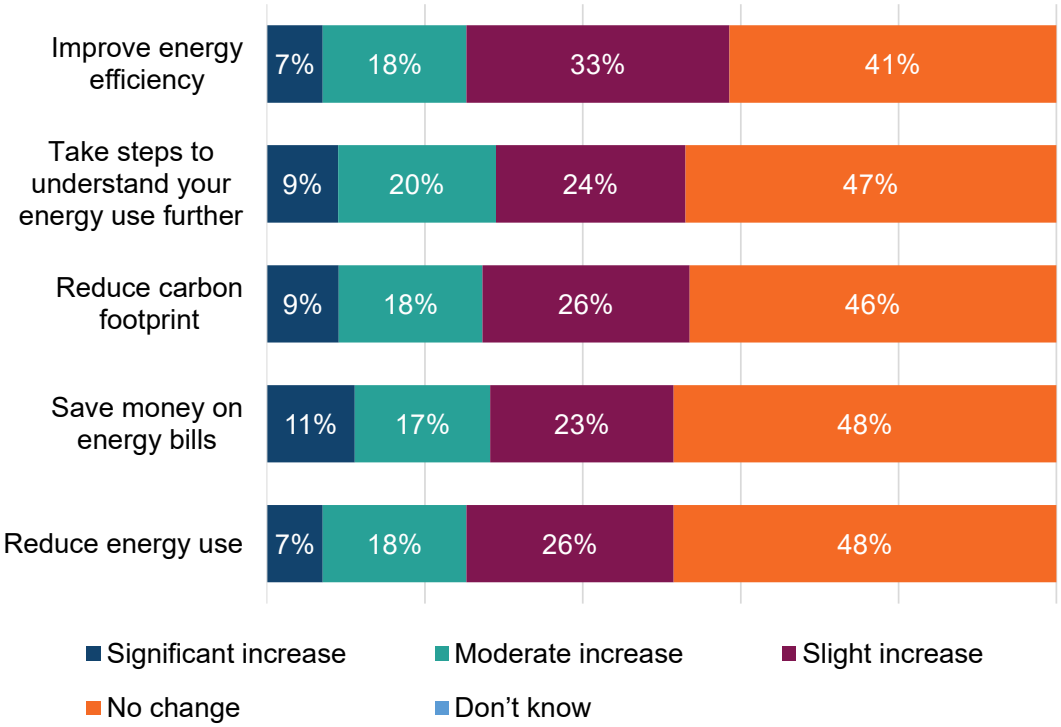
It is worth comparing these results to findings around the usefulness of ESOS: for example, that 71% of participants report that their ESOS audit provided helpful insight on patterns of energy consumption and 54% reported that the audit provided new information. It is therefore likely that ESOS contains useful information on energy consumption, but it is not always new to relevant individuals in the organisation and does not always lead to increased awareness.

Interestingly, the extent to which ESOS raised awareness amongst staff and senior leaders did not vary based on previous participation in ESOS or by participation in other schemes. This suggests that participation in similar processes previously does not preclude organisational learning around energy use and efficiency.

When asked about the extent to which ESOS led to internal pressure within the business across various categories, over half of businesses said that it had. For example, Figure 19 shows that 58% of participants reported that ESOS Phase 3 had led to increased pressure to improve energy efficiency, with slightly fewer (50%) reporting increased pressure to reduce energy use (this includes those who reported a slight, moderate or significant increase). However, relatively few respondents (7-11%) reported that there was a 'significant' increase in pressure across the different categories asked about.

[55] BEIS (2017) 'Evaluation of the Energy Savings Opportunity Scheme: Interim Process and early impact evaluation report'
[56] The lowest 20% energy consumers were more likely to agree (39%) but this was not statistically significant.

Figure 19: Extent to which the process of complying with ESOS Phase 3 led to greater internal pressure within the business across various factors



Source: E2. To what extent did the process of complying with ESOS Phase 3 lead to greater internal pressure within the business. Base: All (600)

The fact that fewer participants felt ESOS Phase 3 led to increased awareness than felt it had increased pressure to act has implications for the policy's Theory of Change. It suggests that ESOS need not always increase awareness of energy consumption in order to create pressure to act. This may be due to the distinct value of an audit's energy saving recommendations and reputational pressure of having to disclose energy saving opportunities and actions.

However, when asked about the impact of public reporting of ESOS data (including energy use data and the actions taken to reduce energy use), 15% of businesses agreed that public reporting of energy use and actions have led to greater external pressure, whilst 53% disagreed. There were no material differences by size or energy consumption of businesses. As such, the new public reporting of ESOS data from Phase 3 does not appear to influence many participants (and therefore contribute to impact) through external pressure from stakeholders. This is therefore a key logic chain within the Theory of Change which is not currently evidenced (though it is worth noting that the survey did not ask about the effect of data publication on internal pressure).

Proportion of businesses conducting audit reports in the absence of ESOS

One aspect of the additionality of ESOS is the extent to which the policy led to energy audits being conducted when they wouldn't have been otherwise. This does not necessarily guarantee that additional savings will be made as a result, but it offers insight into the extent that the audit requirement is a novel and useful feature of ESOS.

Four out of five (79%) participants claimed that they would have conducted an audit anyway in the absence of ESOS Phase 3. Of these:

- 16% stated that they are *'required to comply with other legislation which requires auditing our energy use'*
- 19% *'voluntarily participate in other schemes or standards that require us to audit our energy use'*
- 44% said that they *'would have conducted an energy audit internally anyway'*

However, this does not necessarily mean that ESOS audits do not provide additional value compared to audits that would have been conducted otherwise. For example, 54% of participants agreed that the audit report provided new information that they would not have got without the ESOS process specifically, suggesting there is at least some level of differentiation between ESOS and other audits.

It is possible that, whilst participants may have conducted other audits outside of ESOS, the requirements and nature of these audits might differ from those conducted under ESOS. When asked about whether they would have conducted audits in the absence of ESOS, the exact nature of the type of audit was not probed on.

It is worth noting that the evidence from this research somewhat contrasts with that of the previous Phase 1 evaluation. As part of that evaluation, qualitative evidence suggested that most businesses typically had not conducted ESOS audits outside of ESOS and that consequently, many businesses were carrying out energy audits for the first time. Where organisations had undertaken voluntary audits, they were generally carried out for a specific reason, rather than a general-purpose audit as is conducted for ESOS. It is possible that businesses are more likely to undertake energy audits outside of ESOS now because of external factors such as increasing energy costs, or because of the longer-term awareness raising of the earlier phases of ESOS itself.

Organisations with higher energy consumption were more likely to say that they would have conducted an audit anyway in the absence of ESOS, as shown in Table 5. (Organisations with more employees are also more likely than other organisations to report that they would conduct an audit anyway, though the results were not statistically significant.) One factor that might explain this pattern is that businesses with higher energy use are also more likely to comply with other related schemes (e.g. 78% of those in the highest energy use band reported complying with SECR, compared to 48% of those in the lowest). Businesses which have participated in previous phases of ESOS are more likely to report that they would have conducted audits anyway (85%, compared to 69% for those not participating in previous phases), though this is likely confounded with size and energy usage.

Table 5: Audit reporting additionality by total energy consumption bands

Total energy consumption (MWh)	% reporting that they would have conducted an audit anyway	% reporting that they would not have conducted audits in the absence of ESOS[57]
900 or lower	69%	29%
>900 to 3,250	74%	24%
>3,250 to 8,500	80%	19%
>8,500 to 28,250	85%	13%
>28,250	88%	10%

Percentages may not sum to 100% due to 'don't know' responses.

Attribution of identified measures to ESOS

As outlined earlier, participants can indicate in their Action Plan whether planned measures were and were not recommended in their audit. However, this does not reliably indicate whether ESOS played a causal role in whether the measure was planned and implemented. Measures recommended in the audit may have been planned anyway, and conversely, the process of complying with ESOS (e.g. the very requirement to submit an action plan) may contribute to the decision to implement measures which were not identified in the audit.

For this reason, the survey of participants asked about individual measures included in Action Plans and Progress Updates, and the extent to which ESOS influenced their decision to plan and/or implement them. This section therefore seeks to understand the additionality of ESOS on an individual measure basis.

Survey participants were shown up to 10 measures[58] that they had recorded in their Action Plan or Progress Update. This list therefore contained both measures that were planned to be implemented, as well as those that had already been implemented. For those that recorded fewer than 10 measures, all of these were therefore shown. For those with more than 10 measures, a random selection of 10 measures was made. (Around 10% of businesses who submitted Actions Plans included more than 10 measures, which was roughly reflected in the final survey sample.)

[57] Percentages do not add to 100% due to a rounding error after the weighting has been applied
[58] Participants were shown fewer than 10 where they had not identified as many, and 10 measures were randomly selected where more than 10 had been identified

For each of these measures, participants were asked to specify whether they were planned or implemented:

- entirely as a result of ESOS
- partly as a result of ESOS
- entirely due to other factors

This section primarily expresses this attribution to ESOS in percentage terms – i.e. the percentage of measures that were attributed to ESOS by participants. In the subsequent chapter, this is used to inform the analysis on actual savings in energy terms.

Of all Action Plan measures, ESOS was attributed as the entire reason for planning or implementing 21% of measures, with a further 37% of measures attributed partly to ESOS. In total, then, 58% of Action Plan measures were attributed at least in part to ESOS, leaving 42% of measures not attributed to ESOS in any way.

On a participant level, of those that had planned or implemented any energy saving measures, 41% had at least one measure that they attributed entirely to ESOS. Three quarters (75%) of participants had at least one measure that they attributed at least partly to ESOS; correspondingly a quarter (25%) stated that none of their measures were introduced due to ESOS in any way.

Participants in the highest 20% of energy consumers were much more likely to report that all their reported measures were planned or implemented entirely due to factors other than ESOS (see table 6).

Table 6: Participants by whether any of their measures were attributed to ESOS, by energy consumption level

Total energy consumption (MWh)	% reporting that at least one of their measures was due in some part to ESOS	% reporting that all of their measures were due entirely to other factors
900 or lower	85%	17%
>900 to 3,250	78%	22%
>3,250 to 8,500	81%	19%
>8,500 to 28,250	76%	24%
>28,250	60%	41%
Total (across all energy consumption bands)	75%	25%

Percentages may not sum to 100% due to rounding of sub-categories.

It is worth noting that even where measures have been attributed to ESOS, their impact would likely be time-bounded, given that these measures would then likely ultimately be superseded or replaced at some point in future. Whilst this is not yet possible to determine for Phase 3, there are some insights on Phase 1 and 2 regarding the time-bounded nature of impact which are outlined towards the end of this report.

Do successive audits continue to identify new insights and recommendations?

Previous sections have compared findings for those who participated in previous phases to those who were new to ESOS in Phase 3. The survey also asked a series of questions specifically to repeat participants about the value of Phase 3, its new components and how it compares to the impact from previous phases. This section mostly focuses on these repeat participants, though there are references to other questions including the wider population in Phase 3 where this provides useful comparison.

Of those that had participated in at least one previous phase, participants were about as likely to agree as disagree that they still found ESOS Phase 3 a useful process to go through (40% agree vs. 39% disagree). Notably, only 15% strongly agreed that ESOS was still a useful process to go through, whilst 22% strongly disagreed.

In addition, around a quarter (26%) agreed that *'Phase 3 helped identify new energy saving opportunities beyond what was identified in previous phases'*, compared to 41% who disagreed.

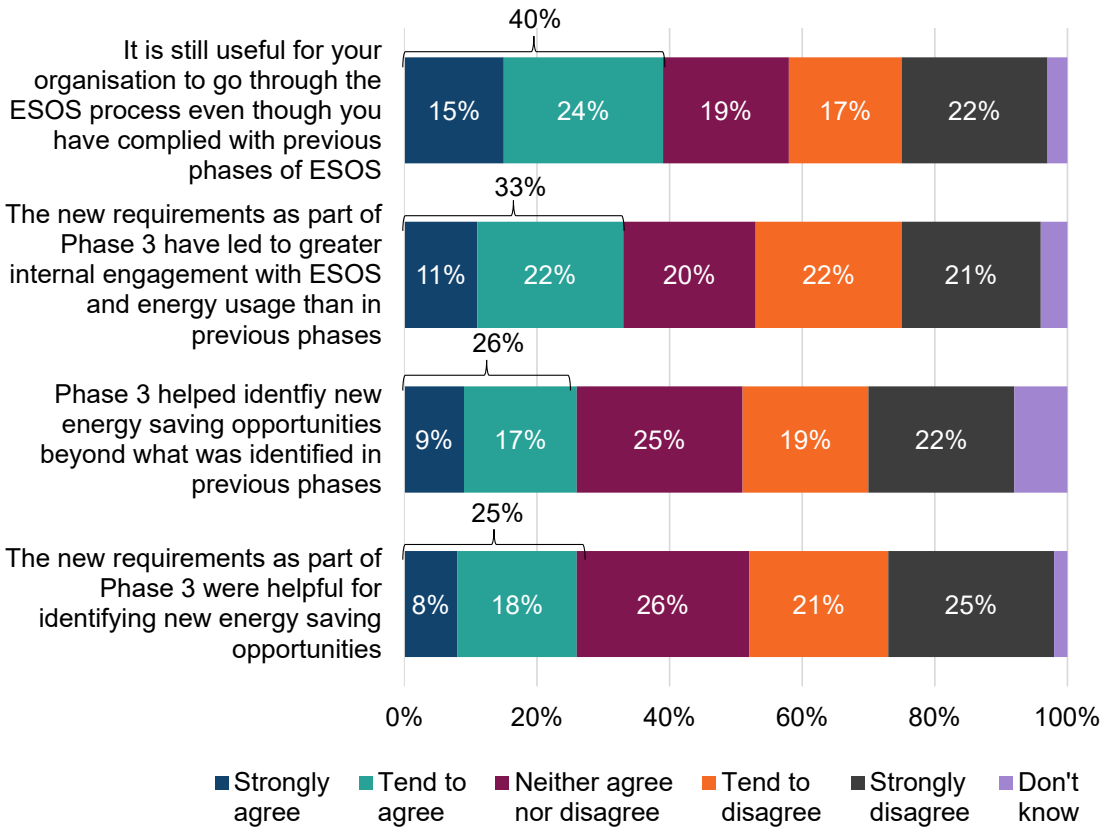
Relatively low agreement with these statements is interesting given that those who participated in at least one of the previous phases reported higher satisfaction with their audit compared to those who had not (78% compared to 71%), and a similar proportion reported that the audit report provided new information (54% for those who participated in previous phases, 53% for those who did not).

On the new requirements introduced for Phase 3, a relatively small proportion of repeat participants felt these had led to greater internal engagement or energy saving opportunities.

- A third (33%) agreed that *'the new requirements as part of Phase 3 have led to greater internal engagement with ESOS and energy usage than in previous phases'*, compared to 43% who disagreed.
- A quarter (25%) agreed that *'the new requirements as part of Phase 3 were helpful for identifying new energy saving opportunities'*, compared to 46% disagreed.

Given that this was a key aim as part of the Phase 3 changes to ESOS, relatively low agreement with these statements suggests that participants generally do not see the changes improving internal engagement or identifying new opportunities.

Figure 20: Agreement with statements about Phase 3, having participated in previous phases



Source: E10. Thinking about Phase 3, after having participated in previous phases, to what extent do you agree with the following statements? Base: All participating in previous phases (Phase 1 and/or Phase 2) of ESOS (394).

By how much has ESOS Phase 3 reduced energy consumption?

Key findings

From 2024-2025 (December to December), 3.8 TWh of energy savings were reported in Progress Updates, representing 0.75% of total energy consumption for those participating in ESOS. While 58% of Progress Update measures were at least partly attributed to ESOS, measures that save larger amounts of energy appear less likely to be attributed to ESOS. Consequently, participants attributed only 0.37-0.90 TWh (10%-24%) of savings from Progress Updates to ESOS.

Based on the Progress Update data so far the savings from Phase 3 are lower than was predicted in the Impact Assessments associated with regulations (3 TWh annual savings from the original design of ESOS, plus an additional 2 TWh annual savings from changes to Phase 3).

This section explores the emerging findings on the impact of ESOS Phase 3 on overall energy consumption. This emerging evidence uses analysis of the MESOS database. The final report will include Quasi-Experimental Design (QED) analysis to more accurately isolate the quantitative energy savings estimates that can be attributed to ESOS. Energy savings and efficiency as a result of ESOS are the key Impact as part of the Theory of Change that is being tested as part of this evaluation.

Energy consumption estimates of ESOS Phase 3 participants

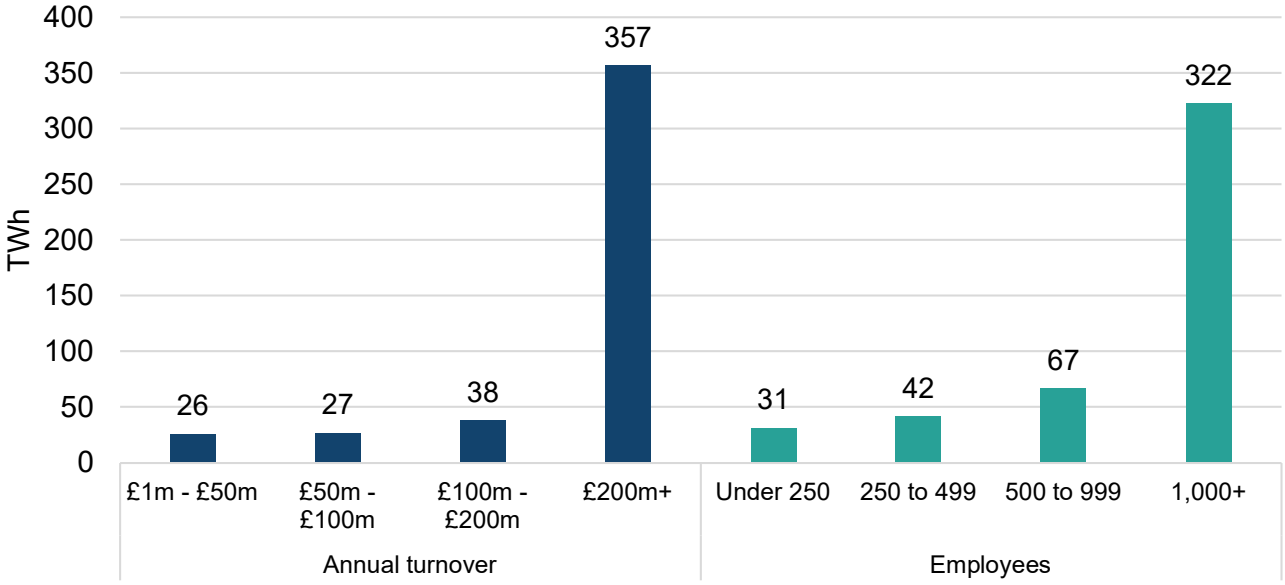
Based on analysis of the MESOS database, total annual energy consumption of the 7,552[59] organisations that qualified for ESOS Phase 3 and were responsible for energy is reported at 507 TWh. Transport and industrial processes make up the largest proportion of energy consumption in the group at 199 TWh (39%) and 192 TWh (38%) respectively (Table 7). Large companies consume more energy than all other company sizes combined (Figure 21). This provides useful context for the energy savings reported in subsequent sections.

Table 7: Annual energy consumption of ESOS Phase 3 participants, split by energy type

	Buildings	Transport	Other processes	Industrial processes
Total energy consumption (TWh)	103	199	13	192

[59] With exclusions applied.

Figure 21: Annual energy consumption of ESOS Phase 3 participants, split by company size



Note: As some participants have unknown turnover and headcount, the TWh savings for the above breaks will not sum to the total across all participants shown in table 7.

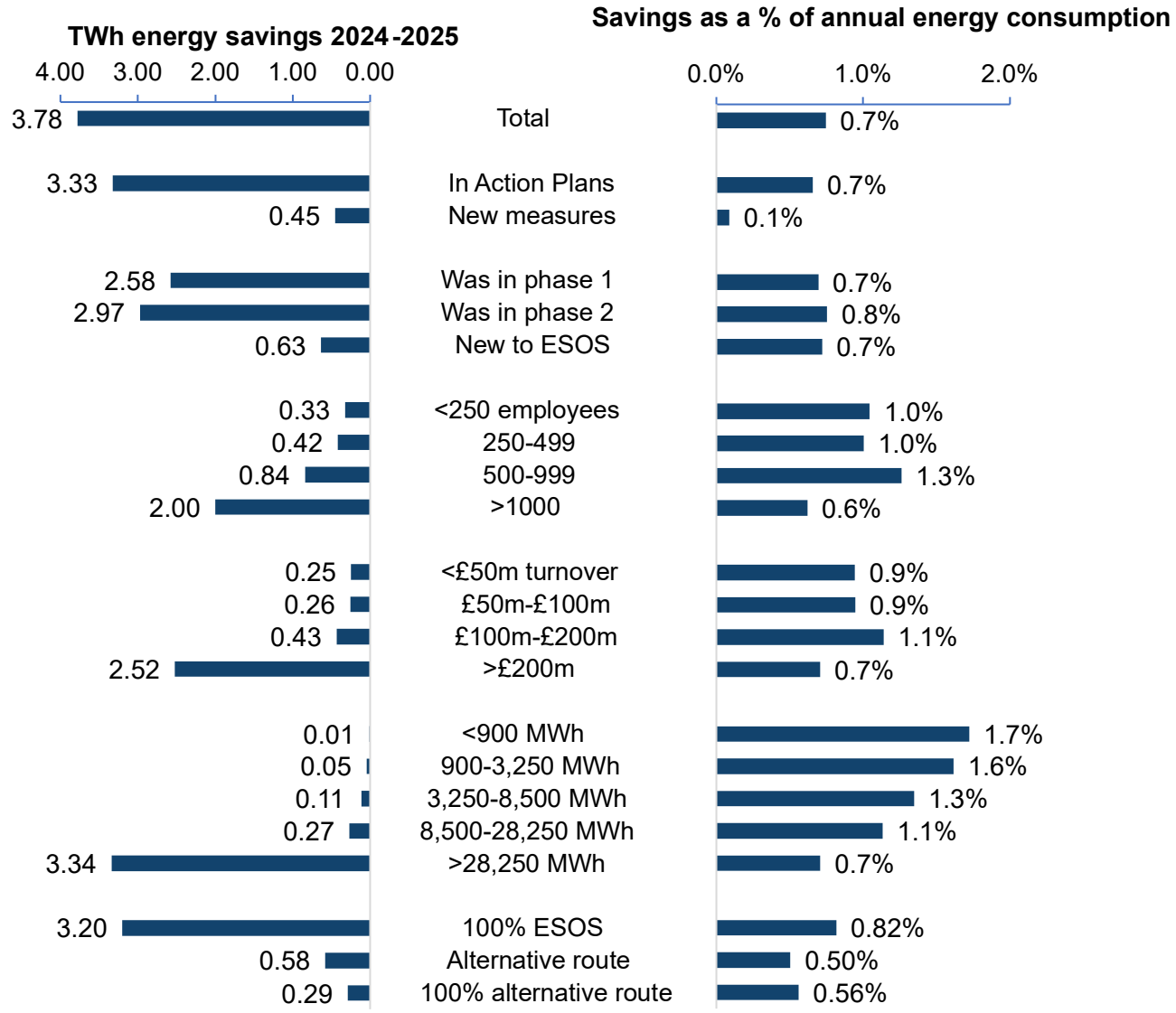
Total energy savings estimates (without factoring in attribution to ESOS)

Participants are expected to submit Progress Updates, which provide an opportunity to update on whether Action Plan measures have been implemented, whether any other energy saving measures have been implemented, and how much energy all of these measures have saved to date. This initial analysis includes all measures, regardless of whether they were attributed as being due to ESOS by participants.

From the 4,607 Progress Updates submitted, 27,300 energy saving measures were reported on, which were reported to have saved participants 4.63 TWh from December 2023 to December 2025[60] (0.85 TWh in 2023-2024 and 3.78 TWh in 2024-2025) (Figure 22). The vast majority (90%) of these savings were from measures outlined in their Action Plans (4.15 TWh based on records of 25,800 measures), with the remainder from additional measures that had not been included in Action Plans. Assuming that companies that have not submitted a Progress Update have not achieved any savings, the savings reported in 2024-2025 equate to 0.75% of the annual energy consumption of all ESOS Phase 3 participants combined.

[60] Although participants were only required to provide energy savings data for the 12 months from 6 December 2024-5 December 2025, they were allowed to voluntarily provide data for savings made in the year previous as well.

Figure 22: Energy savings reported for the reporting years 2024-2025, and as a proportion of total energy consumption



Source: Progress Update and Notification of Compliance data. Energy consumption includes participants who did not submit a Progress Update. This includes all savings from Progress Updates, including for measures that respondents said were not implemented due to ESOS. TWh savings will not sum to the total for previous phase participation (participants can be in both the in phase 1 and in phase 2 groups) and for the headcount and turnover breaks due to some participants having unknown figures.

Similarly to the Action Plan savings, the largest enterprises both in terms of employee count and annual turnover have reported saving the most energy, yet this makes up a much smaller proportion of their energy consumption than other sized enterprises. Companies with 500-999 employees or annual turnover of £100m-£200m have saved the most energy relative to their energy consumption (1.26% and 1.14% respectively) and still contributed a sizeable energy savings in absolute terms (0.84 TWh and 0.43 TWh respectively). There was a particularly clear relationship between annual energy consumption and both the TWh energy saved and how much that makes up of those companies' annual energy consumption, the former being a (non-linear) positive correlation and the latter being a negative correlation.

Enterprises participating in ESOS for the first time contributed significantly less energy savings compared to those known to have participated in previous phases. However, this is likely at least partly influenced by the fact that those participating in only Phase 3 are more likely to be smaller enterprises which have only recently reached the threshold for eligibility, a sub-group which contributes far less energy savings in absolute terms.

Enterprises which were participating in ESOS through an alternative compliance route because some of their energy consumption was covered by ISO 50001, Display Energy Certificate or Green Deal Assessment, recorded fewer energy savings in their Progress Updates as a proportion of their total energy consumption. (Companies auditing all of their energy through ESOS committed to saving 0.82% of their total energy consumption, compared to 0.56% for enterprises auditing all their energy under a different scheme). However, this again may be related to the makeup of enterprises using alternative compliance routes, which tend to be enterprises with higher energy consumption (35% organisations auditing all their energy under a different scheme consume over 28,250 MWh per year, compared to 18% of organisations auditing all of their energy through an ESOS audit). See 'Annex 6: Supplementary statistics from MESOS analysis' for further breakdowns on Progress Update data.

Attribution of energy savings to ESOS Phase 3

Action Plan data helps us estimate by how much energy consumption could reduce if all measures are implemented. Progress Update data shows self-reported estimates of how much energy consumption has reduced to date. Up to this point in the report, findings have shown how many Action Plan savings were identified in the audits and how many measures were attributed to ESOS in the survey. In this section, we explore these findings further and how they relate to the amount of energy savings in TWh terms that participants attribute to ESOS.

Just under half (48%) of savings outlined in Action Plans are reported in MESOS as having been identified in the original ESOS audits. Leaving aside the issue that some of the measures identified outside of audits are beyond the scope of ESOS (for instance, solar panels), this could suggest many energy savings reported via ESOS would have been implemented without participation in ESOS Phase 3. However, ESOS may still have played a role in encouraging action on energy efficiency for measures not identified in the original audit. For example, ESOS may contribute to a general drive to improve energy efficiency through wider requirements and accountability measures like Action Plans and Progress Updates. Furthermore, measures may have been 'inspired' by the audit, rather than been taken as a direct recommendation.

This is why the survey findings are valuable – questions asking whether measures were planned or implemented due to ESOS capture both the impact of the audit but also ESOS's other potential behavioural drivers. The survey found that 21% of Action Plan measures were attributed entirely to ESOS and a further 37% were attributed partially, meaning around half (58%) were at least in part attributed to ESOS. The findings that follow use these to work out how much of total Action Plan and Progress Update savings in TWh terms are attributed to ESOS.

It should be borne in mind, these results derive from descriptive statistics of self-reported energy savings data, and are therefore likely susceptible to various biases which may inflate or reduce estimates (see Section 'Limitations of the attribution analysis'). Rigorous QED analysis, which will be completed for the final evaluation report, should provide some validation of these findings, albeit for earlier phases. Although MESOS captures all energy sources for all ESOS participants (whereas the data which will be analysed in QED will only cover metered electricity and gas for a sample of buildings based on the ND-NEED database), MESOS data has no control group, and does not, in itself, validate whether measures outlined in Progress Updates were implemented due to ESOS, even if they were recommended in the ESOS audit. A further limitation of MESOS data is that, for measures implemented before the Action Plan submission date (5 December 2024), it is optional for participants to provide information on annual savings on these measures through their Progress Updates. As such savings from these measures may be underestimated by MESOS data.

As outlined in the Section 'Attribution', survey respondents were asked which of these planned and implemented measures they felt were due to ESOS, which is expressed in percentage terms in the previous section. In this section, these attribution percentages are used to inform energy savings at an overall ESOS population level by scaling the attribution percentages to all measures. Measures reported as entirely due to ESOS were assigned 100% of their savings; measures reported as partly due to ESOS were assigned 50% in the central estimate and 25%/75% in the sensitivity range. "Don't know" responses were excluded. Further details are provided in the methodology.

This analysis does not account for whether measures were included in the ESOS audits, given that it is possible for measures to be identified and installed as a result of ESOS without having been in the audits, as identified in the above chapter.

This self-report method of attributing measures to ESOS has weaknesses, since respondents may find it difficult to distinguish ESOS audit influence from other market and organisational factors. Additionally, attributing a measure "partly" to ESOS could have a range of reasons with differing implications for the analysis (i.e., this could mean they were considering implementing the measure at a smaller scale, at a later date, or they were undecided and the ESOS audit confirmed the decision). It is worth noting that Progress Update measures submitted after the sampling date (9 December 2025) were not included in the list of measures asked about in the survey. However, we assume that the findings are generalisable across all measures.

QED analysis of energy meter data (to be included in the final report) is not affected by these biases but is susceptible to other biases and coverage issues to which MESOS data is not susceptible. As such, these findings are still a valuable indication of the magnitude of savings that ESOS Phase 3 may have contributed to.

If all measures committed to in the Action Plans are implemented, this could achieve 9.3 TWh per year. Of these savings, we estimate that participants attribute only 19% (12%-26%) to ESOS, equating to 1.8 TWh per year (1.1-2.4 TWh). In contrast, 3.8 TWh of savings were achieved in December 2024 to December 2025, of which 16% (9%-23%) or 0.6 TWh (0.3-0.9 TWh) were attributed to ESOS (Table 8). The results suggest that the majority of energy

savings from measures outlined in the Action Plans and Progress Updates would have been achieved regardless of participation in ESOS Phase 3.

In comparing the proportion of Action Plan and Progress Update **savings** attributed to ESOS to the metrics outlined earlier in the report:

- The proportion of savings attributed to ESOS is noticeably lower than the proportion of measures attributed ESOS (see Table 8). This implies measures with high levels of savings are less likely on average to be attributed to ESOS than measures with low levels of savings.
- The proportion of Action Plan savings attributed to ESOS (18%) is also lower than the proportion of Action Plan savings from measures identified in the audit (48%). This suggests a large fraction of savings from measures identified in the audit would have been implemented in absence of ESOS Phase 3.

Table 8: Savings attributed to ESOS based on the attribution calculations

	Total savings (TWh)	% measures reported as entirely or partly due to ESOS	Modelled attribution of savings to ESOS (%)	Modelled attribution of savings to ESOS (TWh)
Potential total Phase 3 savings over 2023-2027 (from Action Plans)	16.3	Entirely due to ESOS – 21% Partly due to ESOS – 37%	18% *(11-24%)*	2.9 *(1.8-3.9)*
Annualised potential Phase 3 savings (from Action Plans)	9.3	Entirely due to ESOS – 21% Partly due to ESOS – 37%	19% *(12-26%)*	1.8 *(1.1-2.4)*
Achieved energy savings 2024-2025 (from 1st Progress Updates)	3.8	Entirely due to ESOS – 18% Partly due to ESOS – 36%	16% *(9-23%)*	0.6 *(0.3-0.9)*

The results vary significantly by annual energy consumption of the participant. Respondents in the top energy consumption band have a markedly lower proportion of savings attributed to ESOS compared to the other bands (Table 9). Due to their large contribution to the total savings achieved and committed to, this has a sizeable impact on the overall “attribution percentage” for ESOS. However, due to the much larger contribution that the top energy

consumption band makes to projected and achieved energy savings, they still attribute more savings to ESOS than any other energy consumption band. For instance, participants from the top energy consumption band attributed 0.45 TWh of Progress Update savings to ESOS, 81 times the less than 0.01 TWh attributed to ESOS by the bottom energy consumption band.

Table 9: The Progress Update and Action Plan TWh savings attributed to ESOS, split by energy consumption band (central estimate)[61]

	<900 MWh	900-3,250 MWh	3,250-8,500 MWh	8,500-28,250 MWh	>28,250 MWh
Progress Update savings attributed to ESOS (December 2024-December 2025) (TWh, *% of total*)	0.01 *(53%)*	0.01 *(29%)*	0.04 *(33%)*	0.09 *(34%)*	0.45 *(13%)*
Action Plan savings attributed to ESOS (2023-2027) (TWh, *% of total*)	0.03 *(48%)*	0.10 *(36%)*	0.32 *(45%)*	0.55 *(34%)*	1.87 *(14%)*

Building-related energy savings were also more likely to be attributed to ESOS than energy savings related to industrial processes. The section 'Inclusion of recommendations in action plans' describes how measures related to buildings tend to produce fewer savings in comparison to industrial process savings, so this trend suggests that measures with higher energy savings are less likely to be attributed to ESOS. One potential reason for this could be that industrial process energy consumption is more likely to be part of energy intensive businesses where energy costs make up a larger fraction of operating costs. This would provide a stronger natural incentive to make energy efficiency improvements than in cases where buildings energy makes up a smaller proportion of relevant businesses operating costs. Another reason could be that industrial process energy savings may be more likely to be already incentivised by other schemes and initiatives, such as the UK Emissions Trading Scheme.

[61] Note that if you apply these proportions to the total savings for each energy consumption band and sum the result, you will get a slightly different total to that which is reported in Table 8. This is because the survey sample naturally differs from the MESOS population in more ways than one, as is explained in 'Limitations of the attribution analysis'

Table 10: The Progress Update and Action Plan TWh savings attributable to ESOS as a % of the total, split by the type of energy which is being saved (central estimate)

	Buildings	Transport	Industrial processes	Other processes	Unknown energy type
Progress Update savings attributed to ESOS (December 2024-December 2025) (TWh, *% of total*)	0.26 *(26%)*	0.15 *(23%)*	0.15 *(10%)*	0.00 *(4%)*	0.02 *(5%)*
Action Plan savings attributed to ESOS (2023-2027) (TWh, *% of total*)	1.42 *(24%)*	0.36 *(13%)*	1.02 *(14%)*	0.07 *(13%)*	N/A

Based on this modelling, the central estimate of energy savings already achieved in 2024-2025 and attributed to ESOS (0.6 TWh, with an uncertainty range of 0.3-0.9) equates to just over 0.1% of the annual energy consumption of ESOS participants. However, this should be treated as a lower bound of savings from Phase 3 for the following reasons:

- many of the measures will have been implemented part-way through the year, so this is not representative of the total savings these measures would generate annually;
- many measures were planned to be implemented after 2025. In addition, savings are not required to be reported in Progress Updates for measures implemented before the Action Plan was submitted.

Conversely, as an upper bound we could assume that all measures planned to be implemented in the Phase 3 period (2023-2027) are implemented when planned and achieve the expected savings. The central estimate of annualised savings from Action Plan measures attributed to ESOS (1.8 TWh with an uncertainty range of 1.1-2.4 TWh) make up 0.3% of the total annual energy consumption across all ESOS participants.

For comparison, the 2014 ESOS Impact Assessment estimated that ESOS would lead to savings of approximately 3.0 TWh per year.[62] A previous evaluation of ESOS estimated that Phase 1 contributed 3.7 TWh of annual savings, albeit with wide uncertainty ranging from 1.2 to 7.9 TWh.[63] The changes made in Phase 3 were expected to yield an additional 2 TWh per year[64], meaning 5 TWh in total combining the original and additional Impact Assessments.

Therefore, even the upper bound of savings that could be expected from ESOS Phase 3, based on self-reported savings, is substantially lower than what was predicted for Phase 3 (5 TWh). It also seems likely that Phase 3 will yield fewer savings than found in the Phase 1 evaluation, although this finding is more uncertain given the wide uncertainty range from the Phase 1 evaluation.

[62] DECC (2014) 'ESOS Final Impact Assessment', page 37
[63] BEIS (2020) 'Research on Energy Audits and Reporting, including the Energy Savings Opportunity scheme', takes the sum of industrial process, buildings and fuel efficiency savings shown on pages 26 and 31.
[64] BEIS (2023) 'Final Impact Assessment: Strengthening the Energy Savings Opportunity Scheme (ESOS)', page 8

What has been the total cost of complying with Phase 3 of ESOS, including the additional requirements?

Key findings

Participants report that external lead assessors and external staff are used for different stages of ESOS, including beyond the audit for some organisations.

Finding out about scheme eligibility and supporting assessors with compliance activity are reported as the most significant uses of internal time throughout the process of complying with ESOS Phase 3. Action Plans and the first Progress Update account for small shares of total compliance activity.

Participants reported a mean of 128[65] hours of internal staff time spent on compliance, compared with 210 hours found in the Phase 1 evaluation.

The mean expenditure on external assessors or consultants across all participants was £11,410, similar to the comparable figure for Phase 1 (£11,793) after adjusting for inflation.

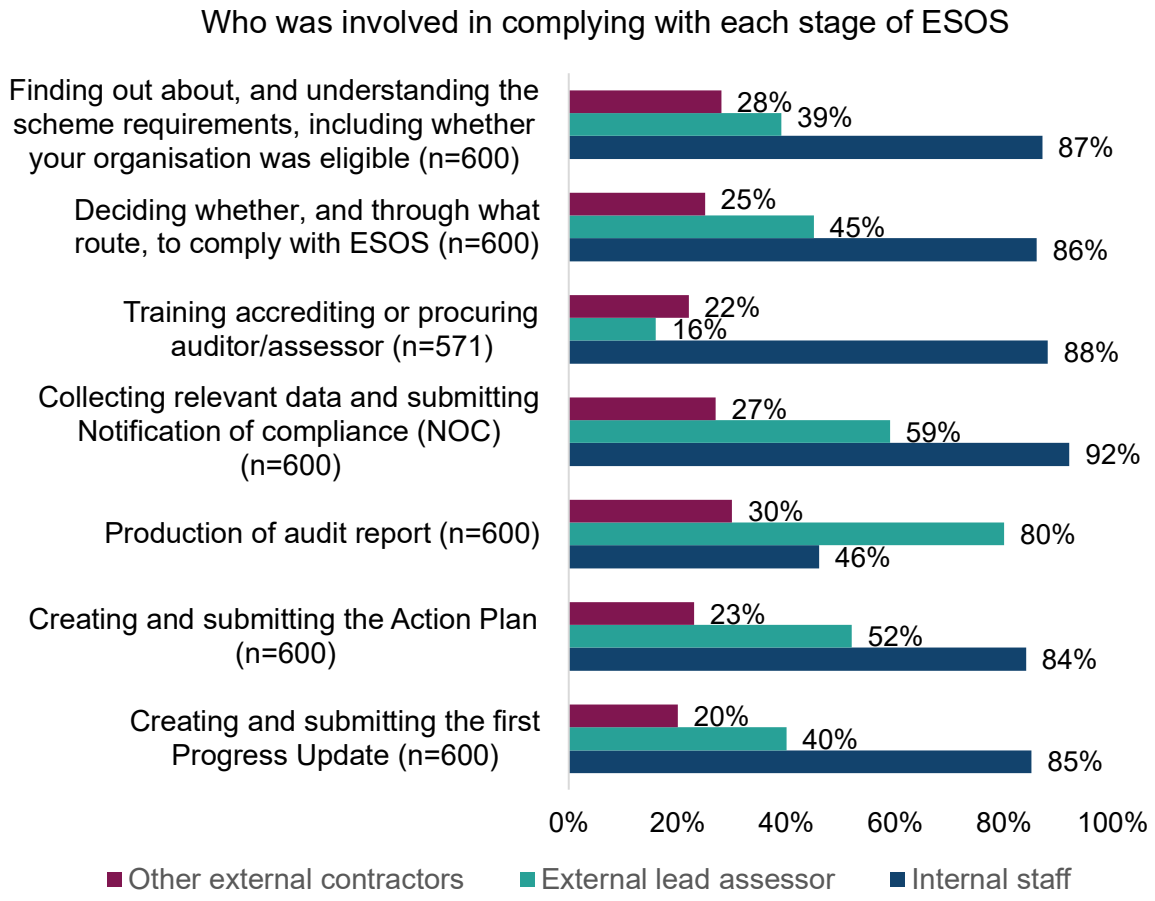
This section explores the costs to organisations associated with complying with Phase 3, which provides us with evidence on the resource and financial burden of ESOS reporting.[66] Assessing the cost to organisations from complying is important for determining the extent to which regulations place a burden on businesses, which should be minimised as far as possible. The cost to business is also a key part of the functioning of the policy in the ToC, which assumes that the benefits derived from complying with ESOS outweigh the costs of compliance, and that businesses will act on measures which are cost-effective.

Types of resource used

The business survey asked whether respondents used internal staff, external lead assessors, or other external contractors at each compliance stage. Responses indicate that ESOS Phase 3 participants used one or a combination of these actors at each compliance stage relevant to them, from finding out and understanding the scheme requirements to submitting the first progress update (Figure 23).

[65] Totals for each stage of compliance are provided in Table 17. The overall 128 hours figure differs slightly from the sum of the individual means for each compliance stage (133 hours), as the overall figure above is calculated from those that were able to provide a figure at all compliance stages (i.e. they had no 'don't know' responses).
[66] Note: All figures presented here from the Business Survey, including base sizes, have been weighted by the design weight outlined in the methodology section.

Figure 23: Who was involved in each stage of ESOS compliance[67]



For all stages of ESOS compliance except for production of the audit report itself, a large majority (at least 84%) of businesses reported that internal staff were involved. For production of the audit report, internal staff involvement was only reported for 46% of respondents, with 80% reporting involvement of external lead assessors.

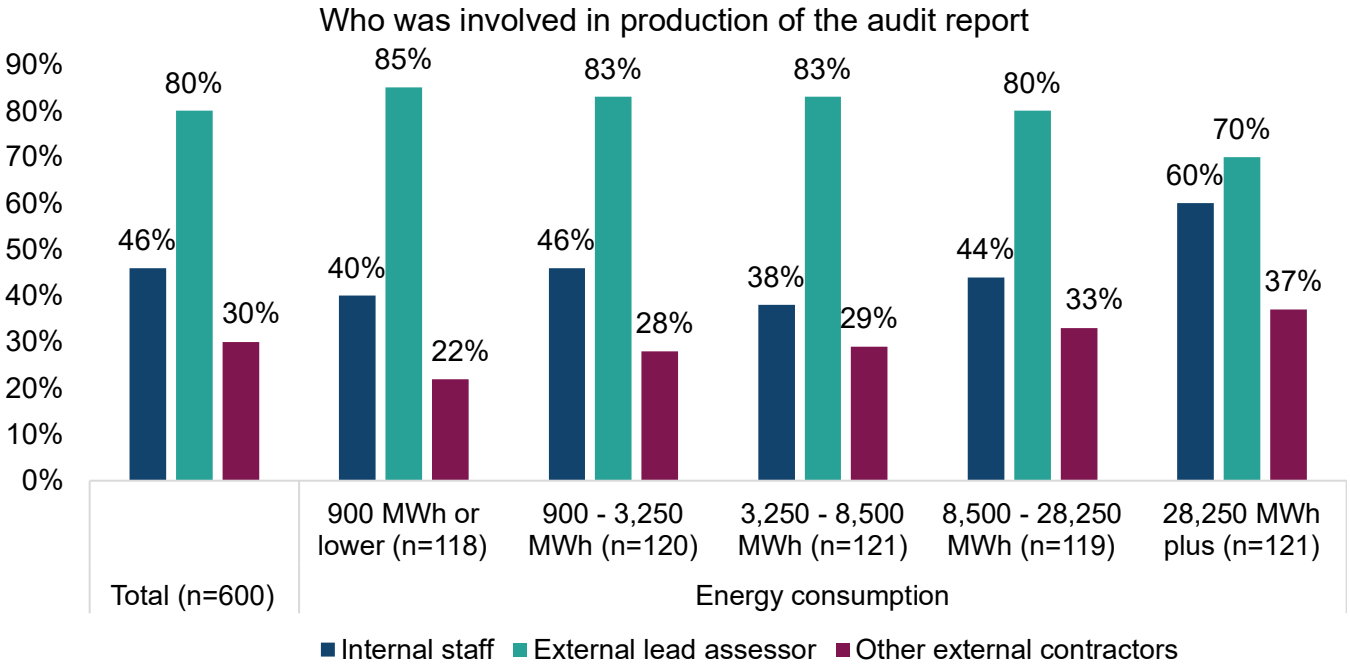
Involving other external contractors was less common, but for each stage of ESOS compliance at least 20% of respondents reported that other external contractors were involved. Internal staff were used in at least one of the ESOS compliance stages by 99% of respondents, but in addition, 96% of respondents used external contractors in at least one stage of ESOS compliance (96% hired external lead assessors for ESOS and 28% paid for other external contractors).[68] It is worth noting that some lead assessors may involve further contractors in the auditing work, which may account for some of the other external contractors. It is also possible that external contractors would be carrying out other jobs which overlap with ESOS, but that it is not their primary focus (for example, a facilities management contractor would likely need to be involved in the audit to provide access, data and so on).

[67] Percentages and base numbers include “don’t know” and “not relevant” responses, which made up <5% of responses for each ESOS compliance stage.
[68] As indicated earlier in the report, MESOS data suggests a slightly higher proportion (98.5%) of participants used an external assessor.

Although they can be involved in several stages of the ESOS compliance process, lead assessors are only required to review the finalised energy audit. It is particularly notable that 52% of businesses reported involving them in production of the Action plan, and 40% in the Progress Update, neither of which are required to be reviewed by a lead assessor. Lead assessors can be internal or external to the organisation, but 96% of survey respondents reported contracting an external third party for this task.

As shown in Figure 24, external lead assessors were less commonly involved in the production of the audit in companies with higher energy consumption (although only the band of companies with 28,250 MWh annual energy consumption were significantly different from the rest). Other external contractors were more commonly involved in the production of the audit in companies with higher energy consumption. Participant organisations which consumed 28,250 MWh or greater energy annually were statistically significantly more likely to use internal staff time compared to the participants in other energy consumption bands.

Figure 24: Who was involved in the production of the ESOS audit, split by annual energy consumption[69]

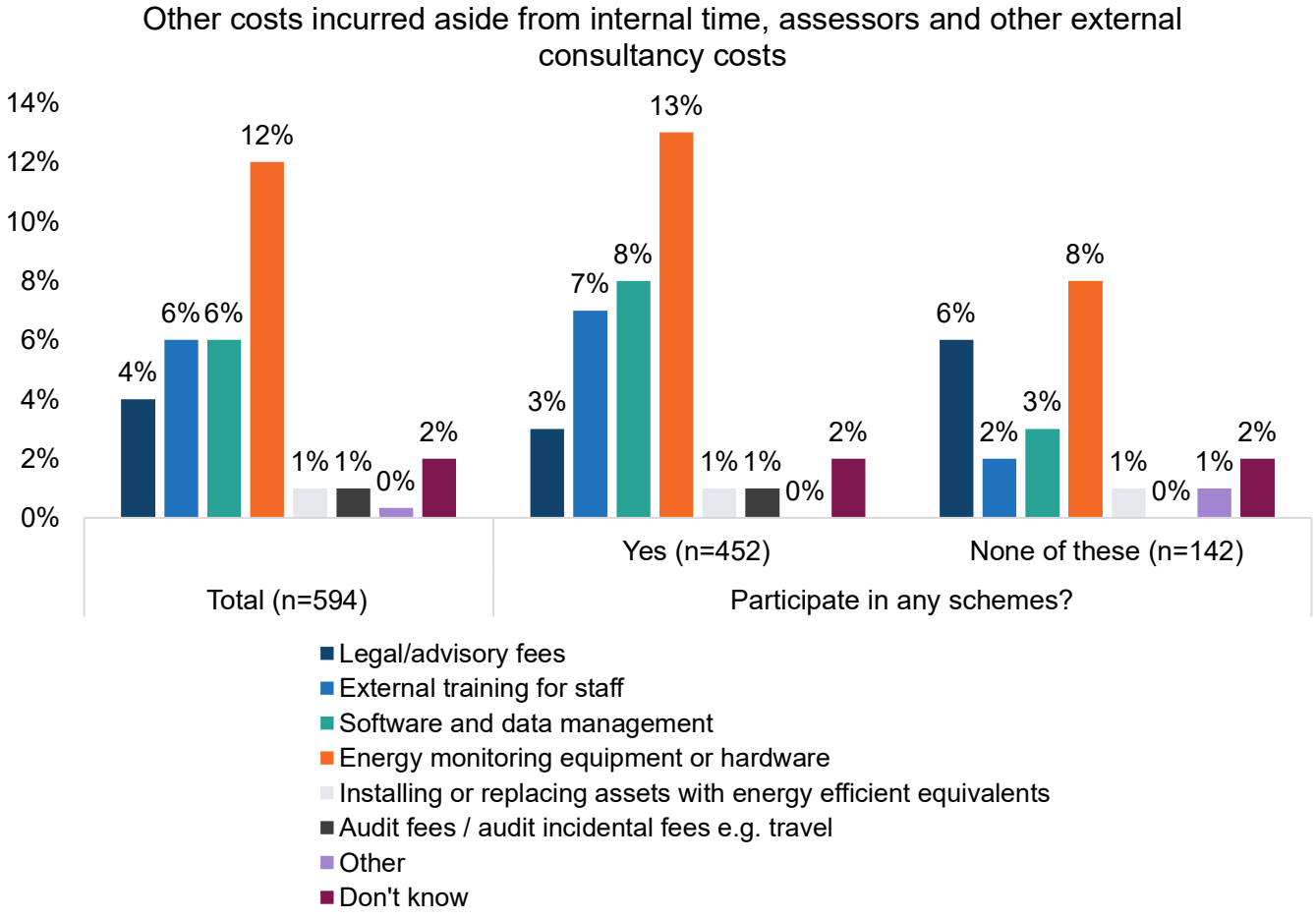


A minority of respondents reported additional costs incurred as part of the ESOS compliance process, aside from internal time, assessors and other external consultancy costs (Figure 25). This included legal/advisory fees (23 respondents, 4%), external training for staff (34 respondents, 6%), software and data management (38 respondents, 6%), energy monitoring equipment or hardware (71 respondents, 12%), installation or replacement of assets with energy efficient equivalents[70] (4 respondents, 1%), and audit fees / audit incidental fees (5 respondents, 1%). External training, software and data management, and energy monitoring

[69] Percentages and base numbers include “don’t know” and “not relevant” responses, which made up <4% of responses for each energy consumption grouping.
[70] Which is likely to be the cost of implementing energy saving measures, as opposed to costs required to comply with ESOS.

equipment or hardware costs were more commonly incurred for respondents who do not participate in other similar schemes (UK ETS, CCA, SECR etc.), suggesting such costs may have been incurred previously due to compliance with those other scheme requirements (although there was only a significance between organisations which did and did not participate in other schemes for external training of staff (p= <0.05)). Due to the particularly low total number of respondents (<30 respondents) that reported incurring legal/advisory fees, installation or asset replacement costs and audit fees / audit incidental fees, interpretation of patterns has been avoided, but note that these could be exceptions to the aforementioned trend (although none were statistically significantly different between those that did and did not participate in other schemes).

Figure 25: Additional costs incurred due to ESOS compliance aside from internal time, assessors and other external consultancy costs[71]



[71] Population denominators for these percentages numbers include “there were no additional external costs incurred” responses, which made up at least 76% of responses for each group.

Internal resource

The internal compliance cost to participants comprises the amount of staff time required for participants to comply with the ESOS regulations at all stages. The time estimates were collected as part of the business survey and provide evidence on the number of hours estimated by organisations that they have spent on each of the steps and the staff involved (where possible, split by 'Administrative staff', 'Middle managers', 'Senior managers', and 'Directors'[72]).

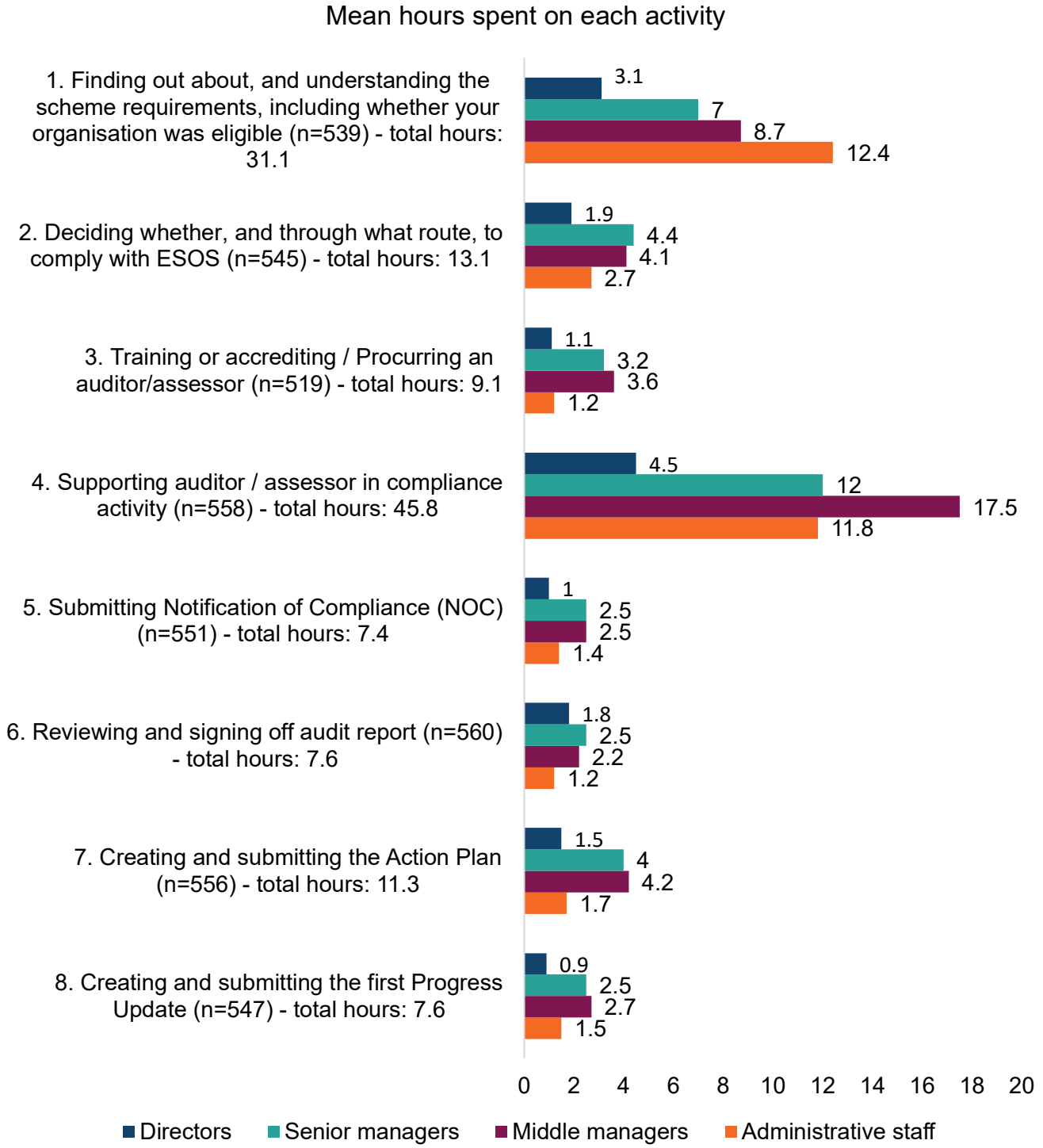
Compliance with Phase 3 of ESOS so far has taken a mean of 128 hours of staff time per participant. This is lower than the mean of 210 hours found in the Phase 1 evaluation.[73]

Respondents reported that the largest proportion of internal staff time was spent on supporting the auditor/assessor in ESOS compliance and finding out about and understanding scheme requirements (Figure 26). This is in line with what was found in the Phase 1 evaluation.[74]

The large amount of time spent on finding out about and understanding scheme requirements may indicate that the change in ESOS requirements as part of Phase 3 may not have been particularly straightforward for eligible organisations. However, the new data submissions for Phase 3 appear to have taken up relatively little internal resources. Creating and submitting Action Plans only took an average of 11.3 hours, and even less time was used to create and submit the first Progress Update report (7.6 hours).

[72] Respondents were asked to provide staff time broken down in these occupation bands to enable Standard Cost Model reporting as part of a future phase of work which will provide monetary figures extrapolated from the staff time burden reported in the survey.
[73] BEIS (2017) 'Evaluation of ESOS Interim process and early impact evaluation report', page 53, footnote 67, mean figure of 28 days of internal staff spent on ESOS Phase 1 compliance. Assuming 7.5 hours per day, this equates 210 hours.
[74] The Phase 1 evaluation found a mean of 13 internal days were spend supporting the auditor/assessor in compliance activity, and 4 days were spend finding out about and understanding scheme requirements. This equates to around 60% of the mean internal days spent on all compliance activities (28 days). BEIS (2017) 'Evaluation of ESOS Interim process and early impact evaluation report', pages 53-55.

Figure 26: Mean number of hours spent internally on each stage of ESOS compliance[75]



Across all ESOS compliance stages and occupations, more internal staff time was spent by organisations with multiple sites by those who participated in previous ESOS phases (Figure 27). It is likely that these factors are correlated with organisation size, which is broadly (albeit imperfectly) correlated with time spent on compliance. Generally, smaller participants (in terms of energy consumption, turnover, and/or headcount) spent less internal time on compliance (Figure 28).

[75] See Annex 5 for more information. Means include 0s (no time was spent).

Those that had also participated in TCFD generally spent more internal resource across job levels (Figure 28). Those that participated in the UK ETS, EU CSRD and the Taskforce for Climate-Related Financial Disclosures reported significantly more time spent by senior managers in complying with ESOS compared to those that did not. Those participating in the Taskforce for Climate-Related Financial Disclosures also reported that middle managers spent significantly more time complying with ESOS compared to those who did not, whilst for those participating in CCAs, Directors spent significantly more time on ESOS compared to those who did not. This may be driven by size since larger companies were more likely to be involved with other schemes, but it could also indicate that there are higher degrees of engagement with ESOS due to senior staff in companies participating in other schemes.

Figure 27: Hours spent on all ESOS stages as reported by survey respondents, including those who spent 0 hours on any of the stages, with various sub-group splits

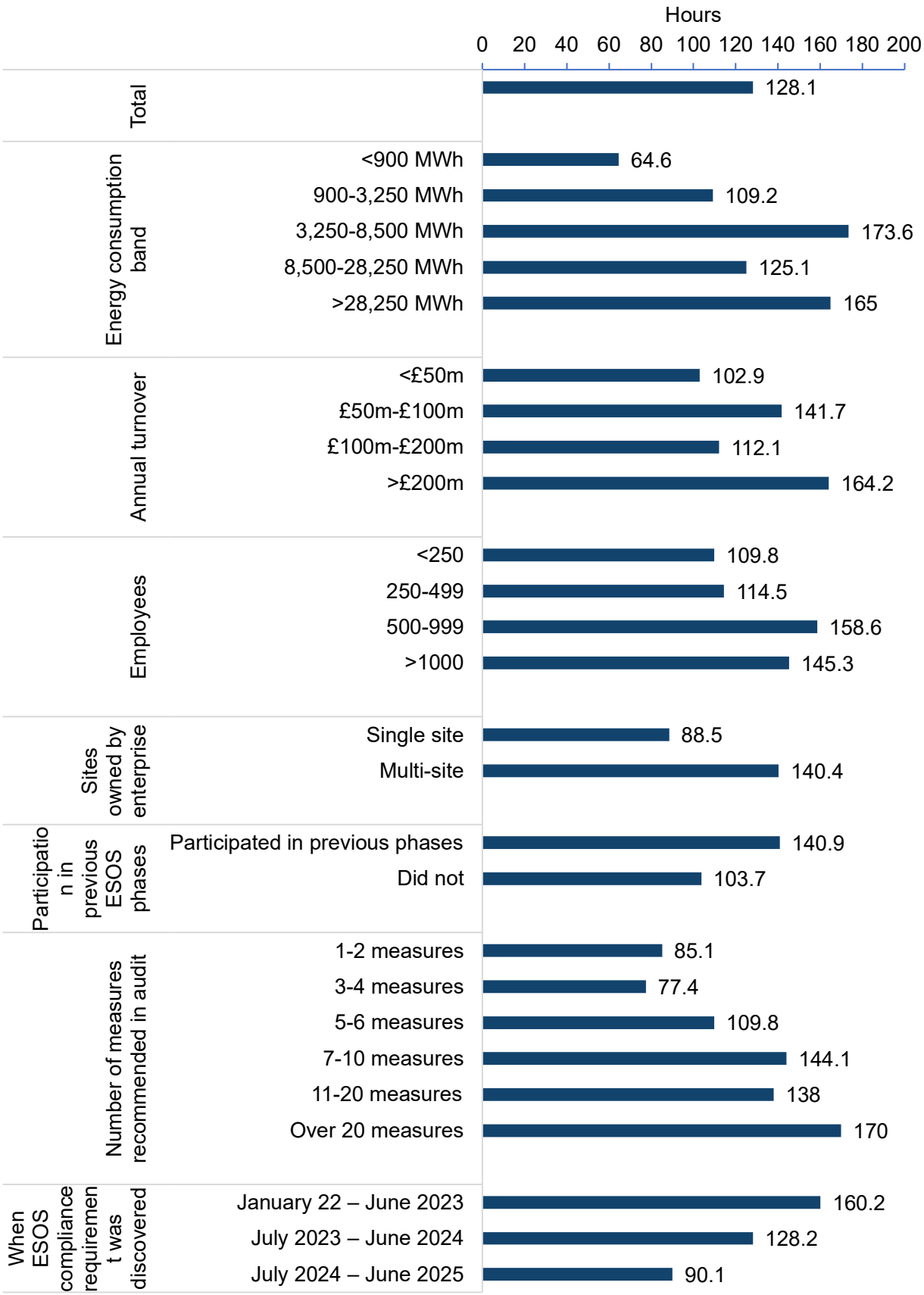
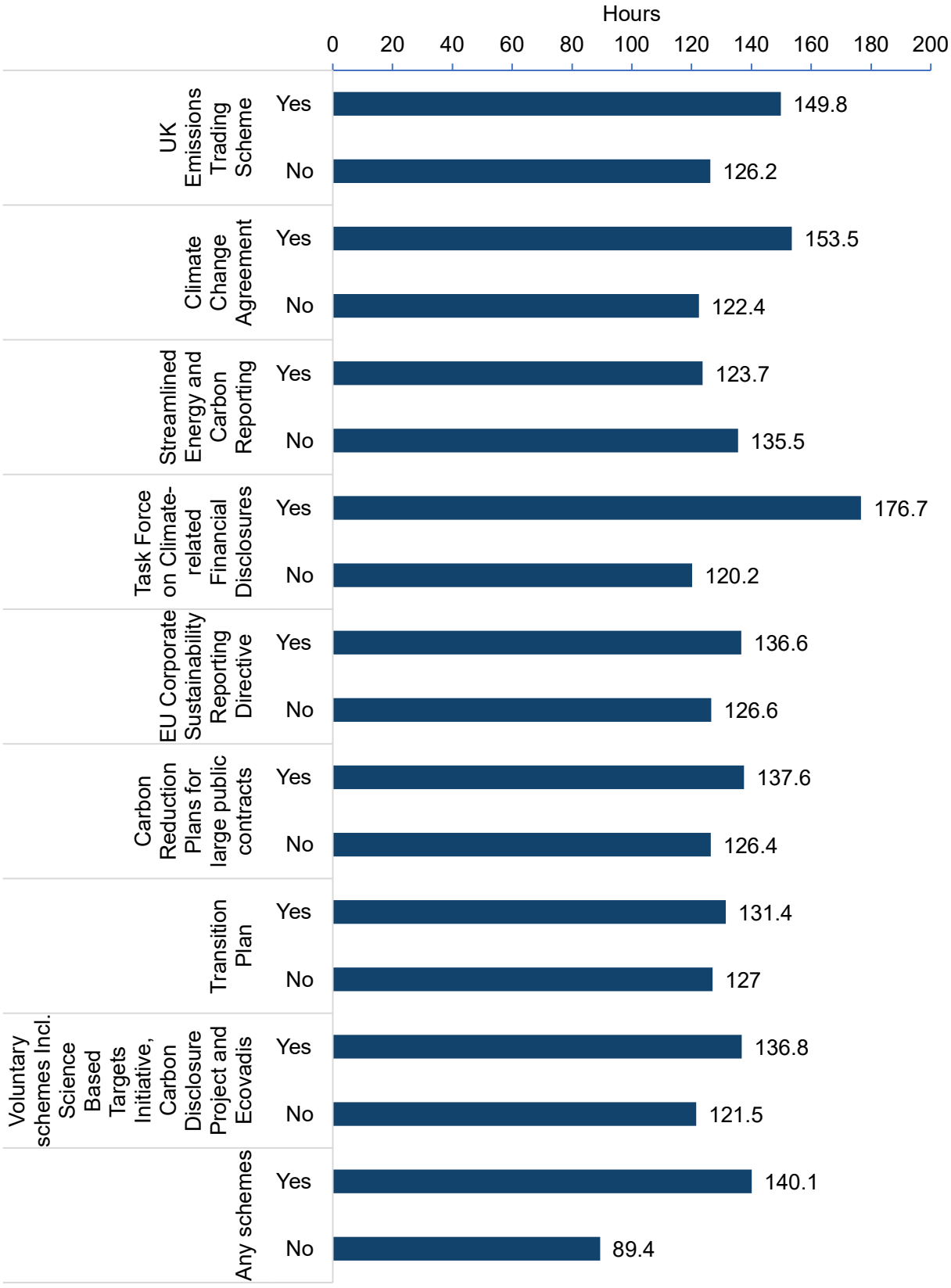


Figure 28: Hours spent on all ESOS stages as reported by survey respondents, including those who spent 0 hours on any of the stages, by participation in other schemes

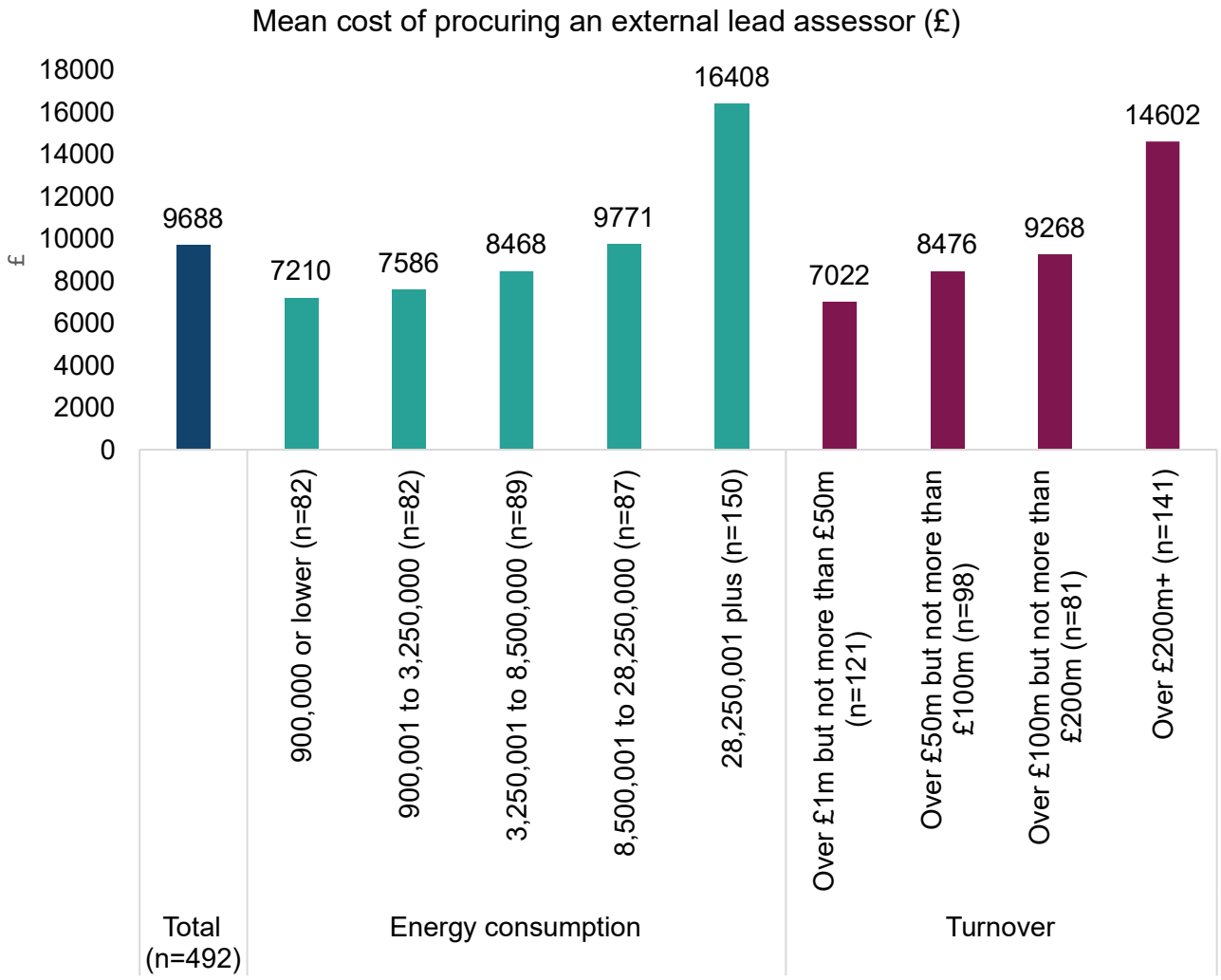


Those with over 20 measures referenced in their ESOS audit spent more time (Figure 27). This could be because spending more time on the ESOS process helps identify more measures, or because those with more energy saving opportunities had to spend more time on ESOS compliance. Company size is also likely to be influencing this, since large companies are more likely to have over 20 measures referenced in their audit reports.

External costs incurred

96% of respondents reported using an external lead assessor. When asked, 10% were not able to provide a figure for the total cost of procuring the assessor. The mean total cost reported by the remaining respondents was £9,688 (Figure 29). There was variation in this figure, with companies with higher annual energy consumption and turnover reporting higher costs, particularly those with in the highest bands of energy consumption or turnover (>28,250 MWh or annual turnover of £200m+, £16,408 and £14,602 respectively, 69% and 51% higher than the overall average). Only these highest bands were significantly different to all the other bands ($p=<0.05$).

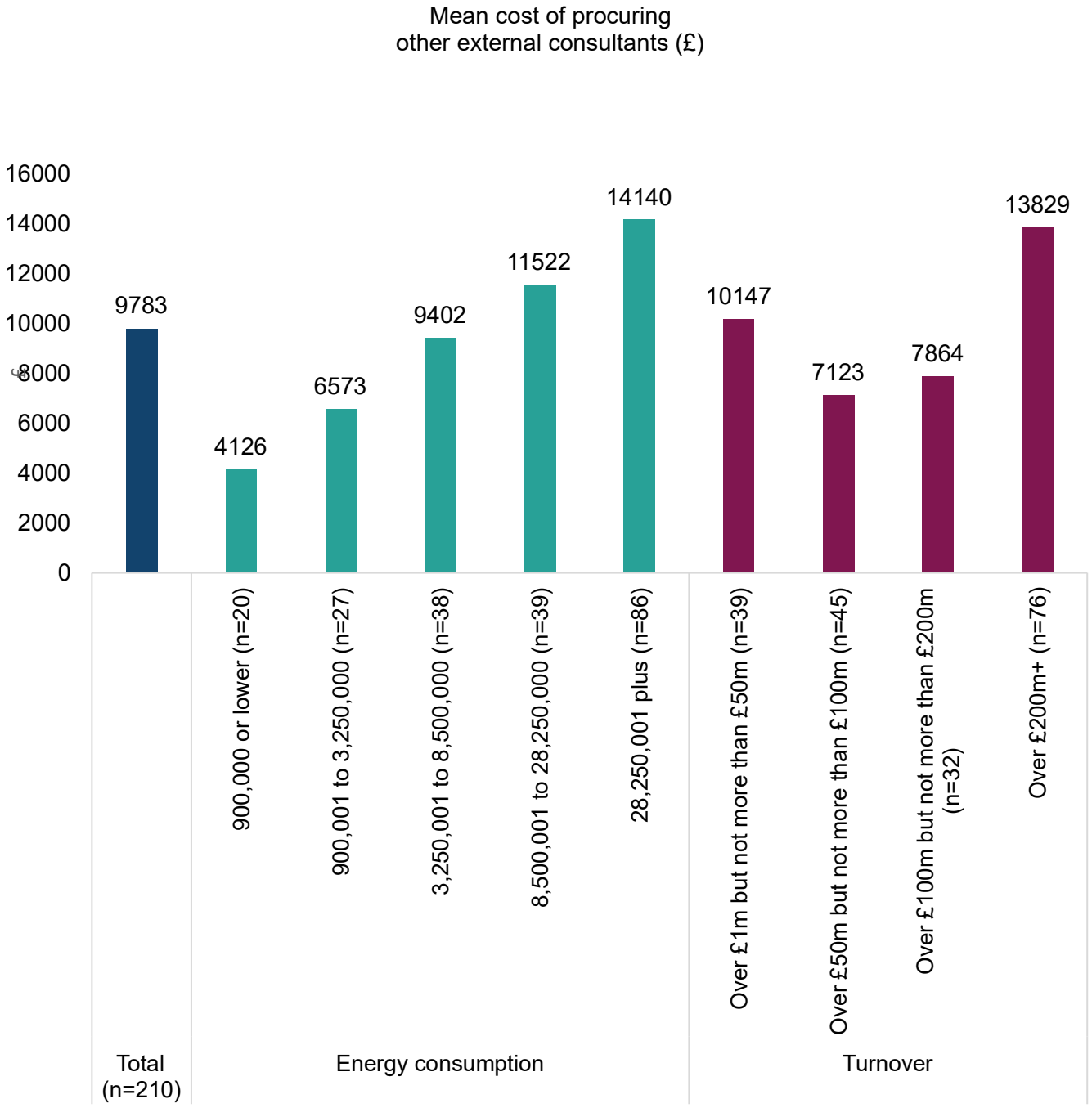
Figure 29: Mean cost of procuring an external lead assessor[76]



167 respondents provided a figure for the total cost of procuring other external contractors (not lead assessors). The mean total cost reported for those that provided a value was £9,783 (Figure 30). This reduces to £2,864 as a mean cost across all respondents including those that did not procure other external contractors (see Annex 5). Again, the mean cost varied in relation to annual energy consumption in a similar pattern as was present for external lead assessors, but the pattern was less clear for annual turnover.[77] Nevertheless, the largest companies (in terms of both turnover and energy consumption) paid the highest for other external contractors.

[76] Mean only accounts for non-zero responses (only those that incurred costs for an external lead assessor) and who were able to provide a figure. Base numbers exclude "don't know" responses.
[77] Please also note that there were low base sizes for several of these subgroups. Base sizes are highlighted in Figure 30.

Figure 30: Mean cost of procuring other external contractors[78]

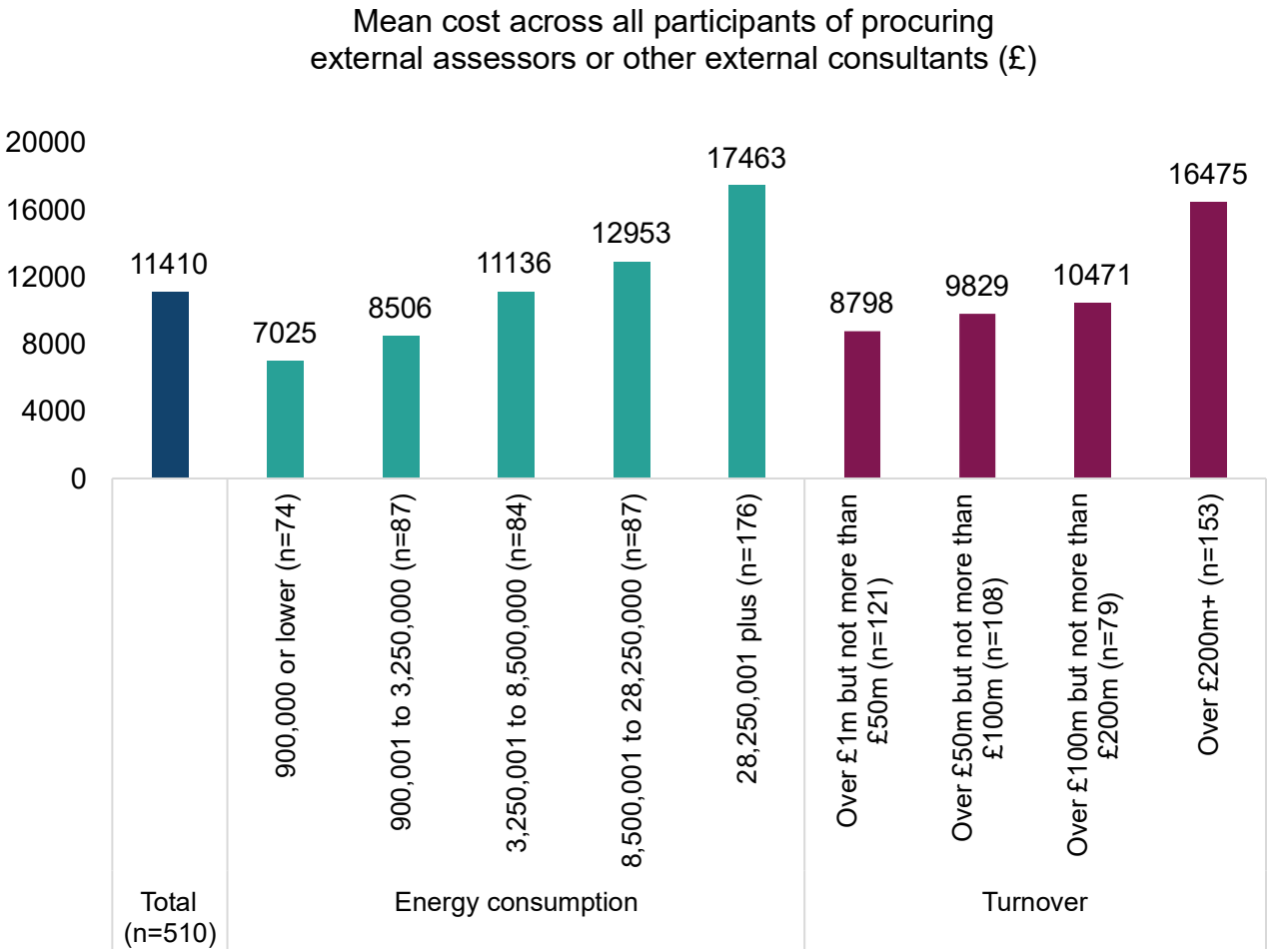


[78] Mean only accounts for non-zero responses (only respondents who did incur costs from external consultants).

Combining the costs of lead assessors and other external contractors (where applicable)[79], the total mean cost for those incurring such costs was £12,384. This is lower than the equivalent figure found in Phase 1 once adjusted for inflation (£13,713)[80], but the difference is likely not statistically significant[81]. Additionally, if taking into account those that did not spend any money on an external lead assessor or other consultancy costs, the average spend across all participants drops to £11,410[82] (Figure 31 below), very slightly lower than the equivalent figure found from the previous evaluation (£11,793) though this difference is not statistically significant. Again, the largest companies in terms of turnover, employee count and energy consumption reported significantly higher incurred costs than the other bands.

[79] Respondents were excluded from the calculations if they answered 'Don't know' regarding the cost of either the lead assessor or external consultants. This means fewer participants' data is used for this calculation and the combined mean is slightly different than the sum of the two individual means.
[80] Previous evaluation reported an overall mean of £10,579 for those who incurred assessor/consultant costs (table 6.1, page 56 of Evaluation of ESOS Interim process and early impact evaluation report). As this sample included those who had not complied with ESOS, the underlying data tables were used to extract data for only those who had participated in ESOS Phase 1. 86% of this group had incurred external costs (table 647), and of these the cost of external assessor/consultants was £10,504. Phase 1 respondents reported incurring these Phase 1 costs were likely to be incurred in 2015, and Phase 3 costs were likely to be mostly incurred in 2024. Converted to 2024 prices, using GDP deflators, the equivalent Phase 1 mean equates to £13,713.
[81] Although we lack the standard deviation associated with the previous evaluation's mean, assuming it was similar to the current evaluation's standard deviation (15,700, shown in table 21 in annex 5), the associated p-value from a t-test is greater than 0.1.
[82] The £10,504 mean incurred by 86% of participants equates to a mean of £9,033 across all participants (including those who did not incur external assessor costs). Converted to 2024 prices, using GDP deflators, this equates to £11,793.

Figure 31: Mean combined cost of external lead assessors and other external consultants in different sized enterprises[83]



Some respondents reported some additional costs associated with energy monitoring equipment or hardware, software and data management, external training for staff, and legal/advisory fees (Table 11 below). The highest mean costs came from energy monitoring equipment or hardware, but this number also had the largest variation in responses (see Annex 5 for more information).

Table 11: Additional costs incurred by respondents

	Legal/advisory fees	External training for staff	Software and data management	Energy monitoring equipment or hardware
% that incurred the cost	4%	6%	6%	12%
Of those that incurred the cost, % "don't know" responses	42%	5%	12%	17%

[83] These means include participants that did not incur any external assessor or consultant costs.

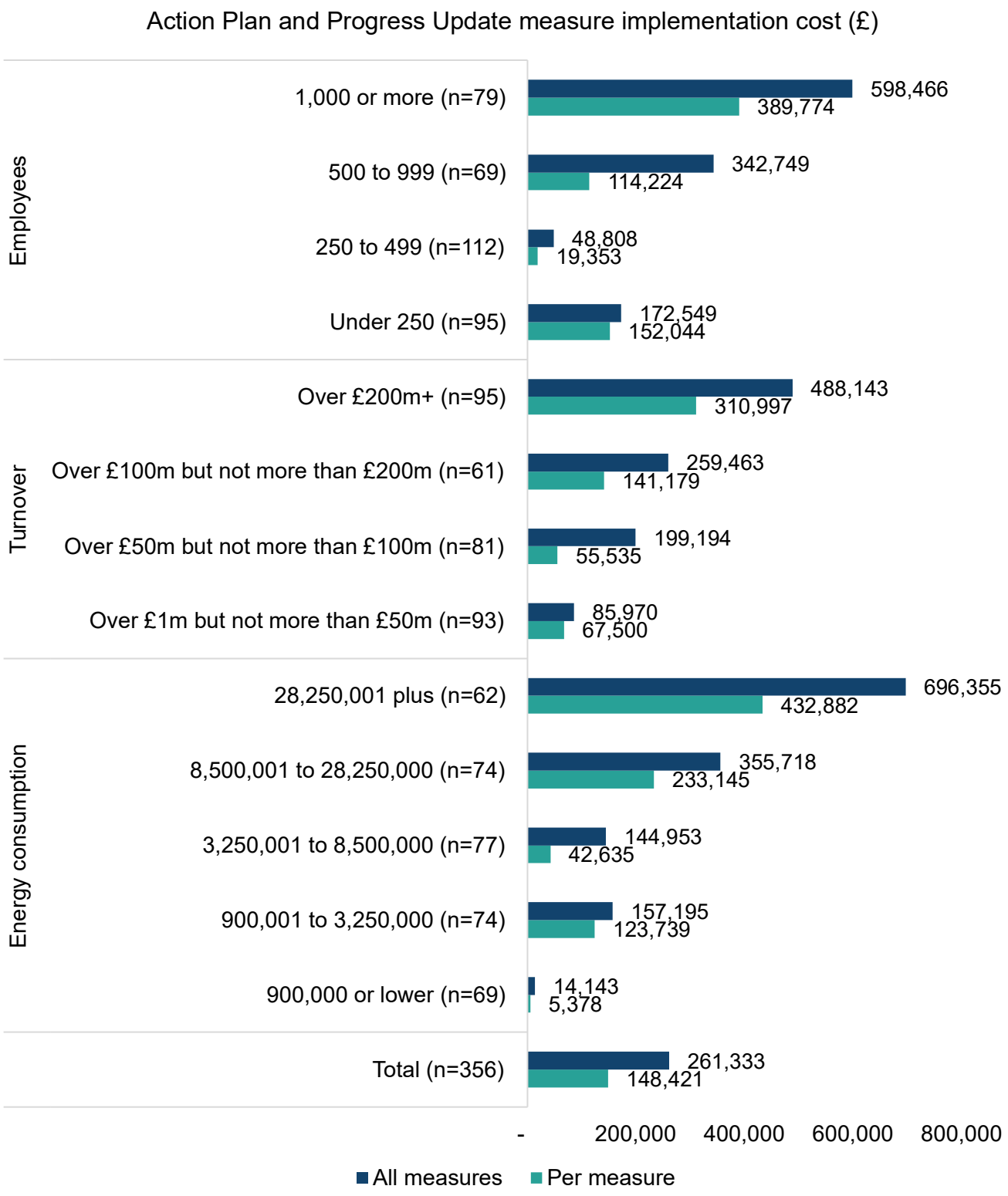
	Legal/advisory fees	External training for staff	Software and data management	Energy monitoring equipment or hardware
Mean cost reported (£) (for those who incurred the cost)	3,439.5	2,679.1	6,785.7	21,850.6
Standard deviation	5,953.93	2,846.50	13,055.31	64,029.89

Cost of implementing energy saving measures

As part of the Business Survey (conducted in early 2026), respondents were asked to provide the cost of implementing measures from their Action Plans or Progress Updates.[84] This included both the costs of implemented measures as well as projected costs for those not yet implemented. The mean cost of implementing each measure was £148,400 (standard deviation: £970,000), and the mean cost for all measures per respondent was £261,300 (standard deviation: £1,279,000) (Figure 32). Larger organisations reported higher costs per measures and in total, reflecting the larger amount of savings implemented by large organisations.

[84] Participants with more than 10 measures across their Action Plan and/or Progress Updates were asked about a randomly selected set of 10 of their measures.

Figure 32: Action Plan and Progress Update measure expected implementation cost (£), mean per measure and mean per participant for all measures planned or implemented



Cost of measures relative to energy savings

As outlined in the methodology, energy savings data was linked to survey data on the cost of measures. This approach provides an estimate of the cost per unit of energy saved, which gives some indication of the cost-effectiveness of measures. However, because MESOS data does not show what kind of fuel is saved we cannot directly estimate the cost savings resulting from measures.

This analysis is applied to all Action Plan measures which were partly or entirely implemented due to ESOS, both those that have and have not been implemented yet, and for which there is both projected cost data (from the survey) and energy saving data (from MESOS).

Taking a central estimate of measures delivering savings for 8 years, the £ per kWh saved in identified of Action Plan measures was 7.6p. Using a pessimistic scenario of 2 years, the £ per kWh saved is 30.5p, while an optimistic scenario of 15 years yields 4.1p.[85]

Energy and Emissions Projections (EEP) produced by the government suggest that 88% of final energy demand in 2025 in commercial and industrial sectors was driven by electricity, gas or petrol consumption.[86] The same projections suggest 92% of transport energy demand comes from consumption of petrol products. For 2025, of these energy sources, electricity is the most expensive (DESNZ reports the average non-domestic cost of business electricity consumption as 23.8p per kWh), gas is the least expensive (the average cost is reported as 5.0p per kWh[87]), with diesel sitting in the middle (11.3-13.5p per kwh[88]). On the assumption that ESOS measures save energy for a mixture of fuels, the price of an average kWh of energy saved due to ESOS will sit somewhere between the average price for electricity and gas.

In theory, businesses would rationally choose to only implement measures which had a lower £ per kWh cost than they would otherwise pay for energy, as otherwise implementing those measures would effectively incur a cost. However, there are also other reasons for implementing measures (such as reducing carbon emissions).

The central estimate of a cost of 7.6p per kWh implemented over 8 years is lower than the business cost of electricity and diesel, and slightly higher than the cost of gas. This suggests measures are expected to save businesses more money than the measures cost them. More detailed cost-benefit analysis will be provided, taking into account both the costs of measures to businesses as well as the costs of complying with ESOS.

[85] These scenarios were chosen based on 'Energy Efficiency Over Time: Measuring and Valuing Lifetime Energy Savings in Policy and Planning', by Rachel Gold and Seth Nowak which exemplifies very short life measures as those with a lifespan of 2-5 years and very long-life measures of those with a lifespan of 15 years. 8 was chosen as the central estimate based on this range.
[86] DESNZ (2026) 'Energy and emissions projections: 2024 to 2050'
[87] DESNZ, Quarterly Energy Prices
[88] 143p/l in Jan 2025, or 120p/l excl vat and duty. Using conversion factor of 10.6 kwh/l, that equates to 11.3-13.5p per kwh. Monthly: Typical/average annual retail prices of petroleum products and a crude oil price index (QEP 4.1.1 to 4.1.3); DUKES 2015: Annex A - Energy and commodity balances, conversion factors and calorific values

To what extent do ESOS audits result in other costs and benefits, such as wider sustainability goals?

Key findings

A third (33%) of businesses with a lead assessor reported that their audit explicitly considered their organisation's net zero objectives.

Around four in five (77%) businesses confirmed they participated in other climate reporting frameworks (defined in a list below), which was more likely for larger companies and those with higher energy consumption.

Just over a quarter of participants suggested that they would benefit from ESOS including a focus on greenhouse gas emissions (27%), with a similar proportion reporting that they would be negatively impacted (24%).

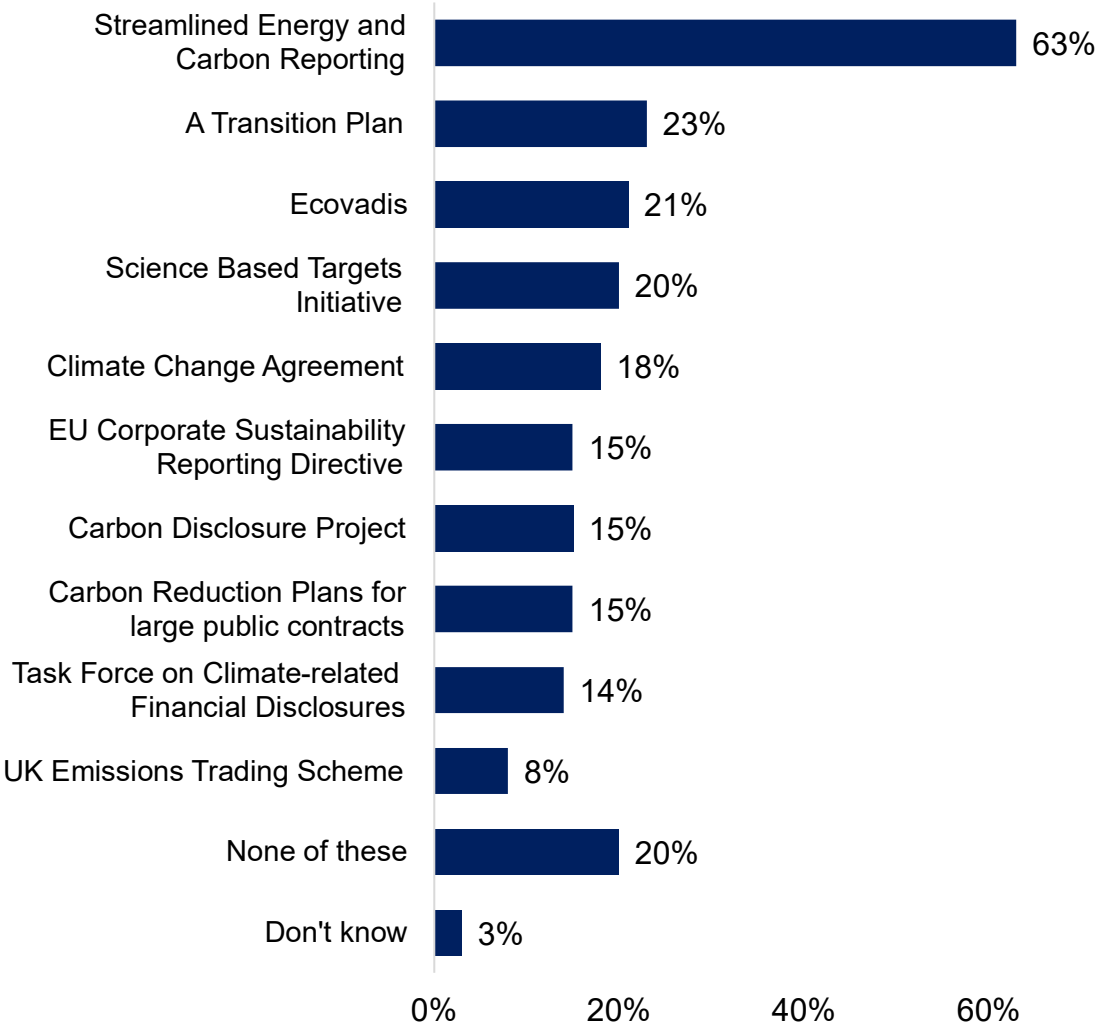
This section explores other costs and benefits resulting from the ESOS process which are not captured elsewhere in the evaluation, including considerations of wider impacts such as net zero, and the interaction between ESOS and other energy and carbon reporting schemes.

Interaction of ESOS with other schemes - e.g. other energy efficiency schemes, Sustainability reporting standards

The Business Survey asked participants what other schemes and initiatives they participated in. As the survey sample may not be entirely representative of the wider ESOS population and respondents may not always know what other schemes their organisation participates in, the final report will provide comparisons to estimates derived from data matching. As such, the findings below on rates of participation in other schemes should be viewed as indicative.

Around four in five (77%) survey respondents confirmed they participated in other climate reporting frameworks (defined as all those listed in Figure 33) - by far the most common was the Streamlined Energy and Carbon Reporting framework, which an estimated two-thirds to three-quarters participated in (63% in the survey). For most other schemes, fewer than one in five reported that they participated, though a small number based on survey data were over this threshold: transition plans (23%), EcoVadis (21%) and Science Based Targets Initiative (20%).

Figure 33 Participation in other climate-related schemes and reporting frameworks, based on survey responses



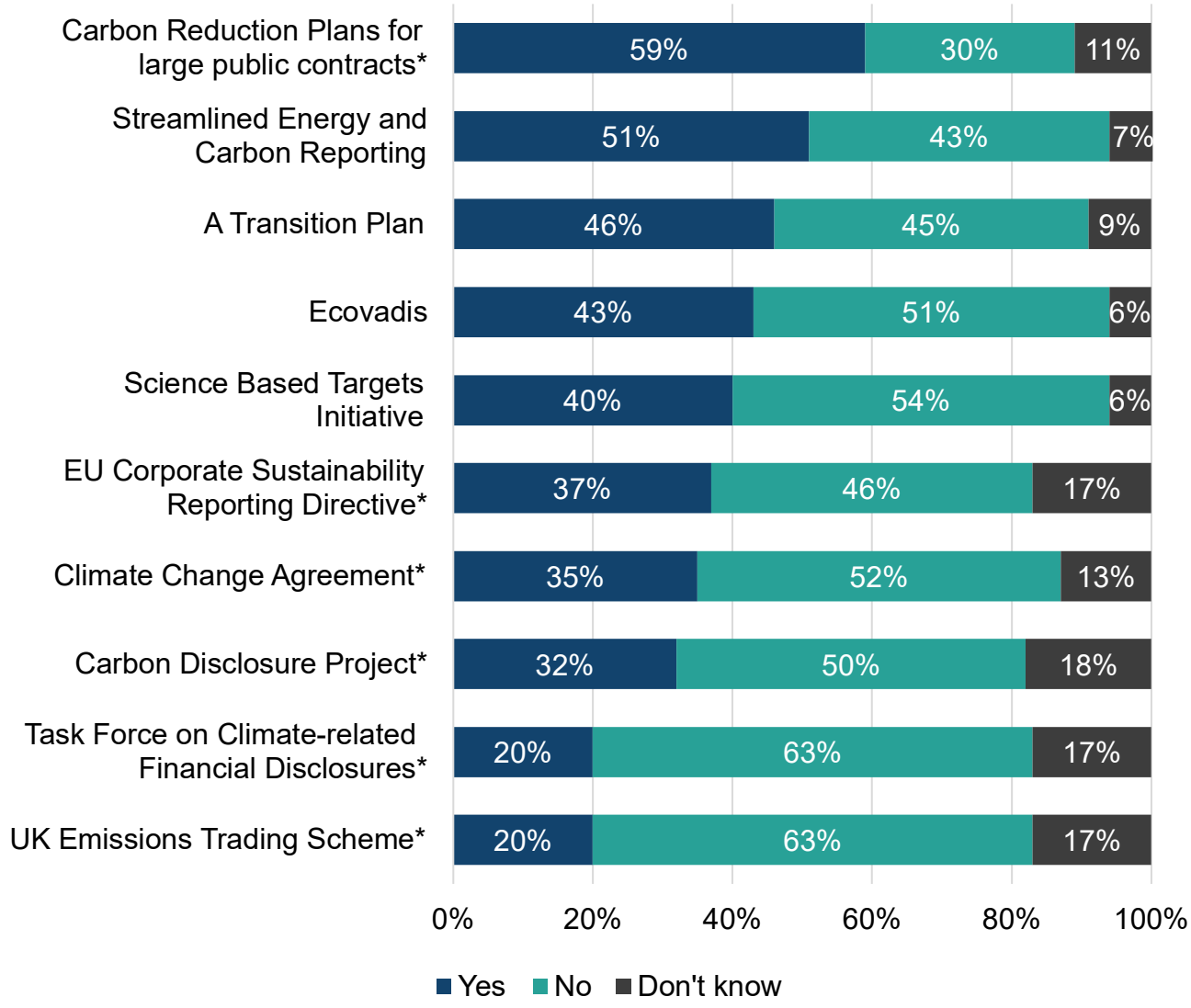
Source: S8B. To the best of your knowledge, does your organisation participate in any of the following? Base: All businesses (600).

Larger participants were more likely to report taking part in other schemes. 95% of those with turnover over £200m participated in at least one of the schemes, whilst the figure was only 60% for those under turnover between £1m and £50m. A similar pattern is observable for energy use too. This is likely due to the fact that some of the schemes are mandatory for companies over size or energy use thresholds.

Views were split over whether participation in ESOS Phase 3 helped businesses comply with these other schemes, as shown in Figure 34. For the most commonly used framework, Streamlined Energy and Carbon Reporting, half (51%) of participants thought ESOS compliance did help but 43% did not. The other schemes where around half of relevant participants felt ESOS had helped with compliance were transition plans (46%) and carbon reduction plans for large public contracts (59%).

In contrast, ESOS was much less likely to be cited as helping compliance for UK Emissions Trading Scheme and Task Force on Climate-related Financial Disclosures (for both, 20% said ESOS Phase 3 had helped, 63% said it had not).

Figure 34: Whether the process of complying with ESOS Phase 3 helped with compliance of climate frameworks or transition plans amongst those participating in each scheme



Source: S8B B4_7. Has the process of complying with ESOS Phase 3 helped with compliance of any of the following other schemes? Base: Those that participate in each scheme; Streamlined Energy and Carbon Reporting (165), Transition Plan (57), Ecovadis (52), Climate Change Agreement (49), Science Based Targets Initiative (50), EU Corporate Sustainability Reporting Directive (47), Carbon Disclosure Project (38), Task Force on Climate-related Financial Disclosures (36), Carbon Reduction Plans for large public contracts (46), UK Emissions Trading Scheme (30). * Base size under n=50, findings are indicative only and should be treated with caution

Net zero

A third (33%) of businesses with a lead assessor reported that their audit explicitly considered their organisation's net zero objectives. Around half (49%) reported it did not and 18% were unsure. Businesses with higher energy consumption were more likely to have had their net zero objectives considered in their audit, 43% of those with 3,250 MWh per year or above compared to 19% of those with lower. Those that participate in any given energy or climate framework outside of ESOS tended to be more likely to have considered net zero objectives compared to those not participating in those schemes, though this is also linked to size given that larger organisations and those with higher energy consumption are more likely to participate in other schemes. For example, 52% of those who had a Transition Plan said that their audit considered net zero objectives, compared to 28% for those that did not.

When asked about what would happen if ESOS were changed to focus on reducing greenhouse gas emissions (i.e. broadening beyond energy use and efficiency), just over a quarter of participants suggested that they would benefit from this (27%), a similar proportion reported that they would be negatively impacted (24%), and the largest group (43%) of participants felt they would 'neither benefit nor be negatively impacted'. Companies in the middle of the energy use distribution were most likely to say they would benefit, as shown in Table 12.

Table 12: Benefit of broader focus of ESOS on greenhouse gas emissions

Total energy consumption (MWh)	% reporting that they would benefit from a broader focus of ESOS on greenhouse gas emissions
900 or lower	18%
>900 to 3,250	26%
>3,250 to 8,500	34%
>8,500 to 28,250	35%
>28,250	21%

Ongoing value provided by Phases 1 and 2 of ESOS

Key findings

A majority of those who reported identifying measures at previous phases said they went on to install them – 83% for Phase 1 and 82% for Phase 2. As a total of Phase 1 and Phase 2 participants, 28% and 32% of participants for each phase attributed at least one measure to ESOS (either including part attribution). These results suggest a relatively similar update of measures in Phases 1 and 2.

However, a significant proportion of participants (72% for Phase 1) reported that they would have gone on to install these measures within 5 years anyway, suggesting the additionality of ESOS measures is time-bound.

The previous evaluations of ESOS asked participants about the short- to medium-term impact of Phase 1 (compliance date December 2015). The current evaluation aims to establish the longer-term energy saving impacts of Phase 1 and Phase 2 (compliance date of December 2019). This interim report provides emerging findings based on participants' survey responses, which will be strengthened by analysis of energy meter data in the final evaluation report.

As part of the business survey, those who had also participated in Phases 1 and 2 of ESOS were asked about energy saving measures that had been identified as part of those phases. Due to the need to prioritise questionnaire content, these questions could not be asked at a measure-by-measure level, as had been done for the questions relating to Phase 3 and as had been asked in the evaluation of Phase 1. But where possible, comparisons have been made with the previous evaluation's medium-term findings on Phase 1's impact.

Impact of previous phases on implementation of measures

Of those who had previously taken part in Phases 1 and 2, 61% and 69% said that they had identified at least some energy saving opportunities as part of those phases. This is surprisingly low given that almost all (99%) participants reported that Phase 3 identified at least one energy saving measure. In addition, the previous evaluation found 90% of Phase 1 participants had implemented or planned energy efficiency measures between 2015 and 2018[89], suggesting participants had potential energy savings available for the audits to identify. This may indicate that respondents struggled to accurately recall details from previous phases given the time elapsed. As such, subsequent findings here should be treated with caution.

Of those that had identified measures through ESOS, the majority installed at least some of them – 83% for Phase 1 and 82% for Phase 2. And for the majority of respondents that implemented measures one or more measures were installed at least partly as a result of ESOS (55% and 56% for Phases 1 and 2 respectively). However, the percentage reporting

[89] BEIS (2020) '[Research on energy audits and reporting, including ESOS: phase 2 report]', page 20

that they had installed measures purely as a result of ESOS was relatively low (9% for both phases).

Out of all Phase 1 and 2 participants, including those who had not who had not implemented measures, this equates to 28%[90] of Phase 1 participants and 32% of Phase 2 participants that at least partly attributed the implementation of at least one measure to ESOS. These small differences between the two Phases are not statistically significant.

The final Phase 1 evaluation reported that 38%[91] of all Phase 1 participants by 2018 had implemented at least one energy saving measure that they attributed at least partly to ESOS. This is somewhat higher than the 28% figure found for Phase 1 in this evaluation, but could be explained by a combination of: slightly different structure to the questions[92], recall issues, and the fact that the current evaluation has only spoken to a subset of Phase 1 participants (i.e. those who also participated in Phase 3).

As such, the finding from the final Phase 1 evaluation is likely closer to an accurate reflection of the overall impact of Phase 1. But a potential conclusion from the limited evidence from this evaluation is that Phase 2 may have had a similar impact to Phase 1 in terms of whether participants implemented energy saving measures. This will be further tested by analysis of energy meter data in the final report.

Longevity of savings from Phases 1 and 2

Survey responses from the latest evaluation suggest that previous phases of ESOS led to energy efficiency measures being installed earlier than they would have otherwise – but that these measures generally would eventually have been installed anyway. Of those that installed any measures in Phase 1 as a result of ESOS, 72% said that their organisation would likely have installed these anyway within 5 years of Phase 1, whilst a further 18% said they would have installed the measures after 5 years but within 10 years. This leaves just 4% who reported saying that they would not have yet installed these measures (with 6% don't know). The proportions were very similar for Phase 2.

Some energy efficiency measures may introduce unintended consequences or be poorly tolerated, leading to measures being reversed. However, the survey evidence suggests that, of those who installed measures due to Phase 1, just 5% said these had been uninstalled or no longer provided savings. Around half (51%) said that the measures were still providing energy savings, whilst around a one in five (19%) reported that the measures have been upgraded.

[90] Calculation for phase 1 as follows: 61% said ESOS identified measures, of these, 83% implemented measures, and of these 55% said they installed at least one measure at least partly due to ESOS. The product of these figures is 28%.
[91] Page 25 of final Phase 1 evaluation report, also table T170 from published tables. (Coincidentally, 38% is also the figure from the Phase 1 evaluation for the proportion of measures implemented at least partly due to ESOS.)
[92] The Phase 1 survey asked participants to set out all energy savings measures implemented, and then asked measure-by-measure which had been influenced by ESOS. In contrast, this survey only had space to ask overall questions about whether any audit-recommended measures had been implemented due to ESOS.

These responses suggest that whilst the measures implemented as a result of ESOS are often still in place 10 years after their introduction, the additionality of each phase's energy savings is time-limited (i.e. eventually the measures would have been introduced anyway). However, given the time elapsed since the measures were introduced and the potential for bias in organisations' self-reporting (e.g. hindsight bias) these findings should be taken cautiously. The final report's analysis of energy meter data may be able to provide a more accurate assessment of the longevity of savings from earlier ESOS phases.

Conclusions

As noted in the Executive Summary and Methodology sections, we are partway through evaluation activities, meaning that some of the final findings may differ from what is laid out in this report. The notable additions for the final report will be:

- Inclusion of econometric work to quantify energy savings compared to a counterfactual group – this may change existing findings around the additionality of the programme in terms of energy savings.
- Inclusion of the economic evaluation – this will contextualise the findings around impact to help make judgements around value (are the impacts proportionate to the costs).
- Further qualitative insight from interviews from ESOS participants, and interviews with other stakeholder audiences too: DESNZ and administrator staff; Energy assessors; Energy assessor bodies.
- An audit review task, which will involve a manual and automated review of audit reports to draw out further insights on themes such as audit quality.

However, the business survey and MESOS analysis are largely complete in this report and are not expected to change substantially.

Conclusions by Evaluation Question (EQ)

EQ1: How have participants and lead assessors found the process of complying with ESOS Phase 3?

Participants' experience of the administrative process was mixed but more positive than negative. 62% said the Phase 3 changes were communicated in good time; 76% said the correct information was available once guidance was published; and 69% said they had adequate support.

A substantial minority became aware of requirements late: among respondents able to recall timing, 25% said they became aware after the June 2024 compliance deadline. Views of MESOS were also mixed but positive overall, with 50% agreeing that it was easy to use and 27% disagreeing. These findings cover organisations that notified under ESOS; the interim evaluation does not assess the experience of organisations that remained outside the notification data.

EQ2: To what extent has the assessor market in Phase 3 supported the needs of ESOS – obligated organisations?

The interim participant evidence does not indicate a widespread shortage of suitable lead assessors, and engagement with the assessor market has been broadly positive. 96% used an external lead assessor and 77% found it easy to identify a suitable one (with 45% saying "very easy").

Three-quarters (76%) of participants required to undertake an energy audit were satisfied with its overall quality, whilst 71% agreed that their audit provided helpful insights on energy consumption patterns (however, this figure was only 58% in the largest energy consumption band).

Almost all (98-99%) of participants required to undertake an audit reported receiving at least some energy saving recommendations. Three-quarters (74%) of participants felt that these recommendations were useful for reducing the organisation's energy use. In total 36 TWh of potential annual savings were identified, equivalent to 7% of annual consumption.

EQ3: To what extent, and in what ways, does ESOS affect organisations' decisions to implement energy saving measures? How have the additional requirements introduced in Phase 3 – particularly the reporting requirements – changed this?

ESOS influences decisions around energy saving, but often as one factor among several. 75% of participants that had recorded any Action Plan or Progress Update measures reported that at least one of their measures was planned or implemented due to ESOS in some form.

44% of respondents reported that Phase 3 increased awareness among staff responsible for energy use and 43% among senior leaders, whereas 34 and 32% respectively disagreed. Only 15% agreed that the public reporting from ESOS generated greater external pressure, suggesting that the current form of publication is not yet translating into external pressure for many participants. Importantly, though, a larger proportion (58%) said Phase 3 increased their organisation's motivation to improve energy efficiency. This implies ESOS can have impact without improving awareness of energy consumption, perhaps due to the value of audits' energy savings recommendations. Action Plans and Progress Updates have strengthened monitoring and made intended and completed actions more visible, but the current evidence cannot establish that these requirements caused additional implementation. 79% said they would have undertaken some form of audit without ESOS, although the survey did not establish the scope or quality of that counterfactual audit.

EQ4: By how much does ESOS reduce energy consumption? What is the resulting change in emissions?

Action Plans reported 16.3 TWh of cumulative savings to the end of Phase 3, equivalent to 9.3 TWh on an annualised basis. The survey-based attribution model estimates that 19% of the annualised total was attributable to ESOS, equivalent to 1.8 TWh per year, with a sensitivity range of 1.1 to 2.4 TWh. First Progress Updates reported 3.8 TWh of savings between 6 December 2024 and 5 December 2025; the central attributable estimate is 0.6 TWh, with a range of 0.3 to 0.9 TWh. These estimates for savings attributable to ESOS are lower than both what had been estimated in the evaluation of Phase 1 and what had been predicted by the pre-legislative Impact Assessments. However, these figures remain provisional because they rely on self-reported savings and counterfactual judgements. The final quasi-experimental analysis will provide an independent test, albeit on the impact of earlier phases.

Analysis from Phase 1 and 2 of ESOS provides useful insight into the likely time-limited nature of ESOS impact, given that organisations are likely to go on to install energy saving measures at a later date. Of participants that installed measures due to ESOS Phase 1, 72% say their organisation would have installed these measures anyway within 5 years of Phase 1, and a further 18% would have installed the measures between 5-10 years after Phase 1.

Reduction in emissions due to energy saving measures will be considered as part of the cost-benefit analysis in the final report.

EQ5: What has been the total cost of complying with Phase 3 of ESOS, in particular with the additional requirements imposed? How do these costs compare to those found in the previous evaluation?

Participants reported a mean of 128 hours of internal staff time across the Phase 3 requirements, compared with 210 hours identified in the Phase 1 evaluation. The largest components were understanding the scheme requirements and supporting the assessor. The new Action Plan and first Progress Update requirements were less resource-intensive, requiring 11.3 and 7.6 hours respectively. Across all participants, the mean cost of external assessors and consultants was £11,410, very similar to the equivalent figure of £11,793 found for Phase 1 after adjusting for inflation. Combining the findings on internal time and external spend on consultants, this suggests overall lower per-participant compliance burden compared to Phase 1. The final economic evaluation will monetise internal time and assess total scheme costs and draw wider conclusions about the value for money provided by the scheme.

EQ6: To what extent do ESOS audits result in other costs and benefits, including interaction with wider sustainability objectives?

ESOS commonly operates alongside wider energy and sustainability activity. 77% of survey respondents reported participation in at least one other climate-related framework. Among SECR participants, 51% said ESOS helped with compliance. One third said the audit explicitly considered their organisation’s net zero objectives. Views on broadening ESOS to focus on greenhouse-gas emissions were divided: 27% expected to benefit and 24% expected a negative impact. The interim evidence therefore indicates complementarity for some organisations, but not a uniform wider benefit.

Synthesis across evaluation questions and population subgroups

Across the evaluation questions, this assessment suggests that the ESOS scheme itself is now relatively mature and running in a way that participants are satisfied with on the whole. Participants report finding the process useful and that it generates new insights, in some instances even when they have participated in previous phases. Participants also find the audit useful, which is the key starting point for ESOS measures.

However, satisfaction with the scheme does not always translate into energy savings. Whilst a large proportion of participants said they were implementing at least one measure due to ESOS, the actual percentage of the total energy saved that participants attribute to ESOS is relatively small. A nuance here, is that this differs dramatically by how much energy a participant consumes, with the largest energy consumers driving much of this pattern. A further nuance is that the Action Plan and Progress Updates may be useful accountability mechanisms for measures, even if those measures are not themselves a result of the ESOS process – i.e. measures identified elsewhere may be more likely to be implemented due to the ESOS architecture.

Across many of the areas of findings, a consistent picture emerges whereby firms with higher energy use (and to some extent larger firms by headcount and turnover, which is a related factor), report ESOS providing less value to them and contributing less additionality. Firms with higher energy use are more likely to report that they would have conducted an audit in the absence of ESOS, and were somewhat less likely to report that their audit for ESOS provided useful energy saving recommendations. Savings reported for these companies make up a smaller proportion of their total energy consumption, and these participants attributed a smaller proportion of these savings to ESOS. Despite this, because these large energy consumers are responsible for such a large amount of energy in scope of ESOS, the total magnitude of their energy savings attributed to ESOS is still substantial and makes up a large fraction of the total, national energy savings from ESOS.

Conversely, smaller firms and those using less energy report gaining greater value from ESOS. They report higher energy savings as a proportion of total energy consumption and are more likely to report that these savings were due to ESOS. However, the savings that ESOS provides these small and low-energy-consuming participants make up a small proportion of the total, national savings from ESOS.

There is some evidence that firms who have participated in other schemes, or previous Phases of ESOS, experience less value from Phase 3 of ESOS. However, this is not repeated consistently across findings.

When asked directly about the value of ESOS, a relatively modest 40% of those who also participated in phases 1 and 2 agreed that Phase 3 was still a useful process to go through, whilst 39% disagreed with this. Furthermore, just a quarter (25%) of those participating in previous phases agreed that the new Phase 3 requirements were helpful for identifying new energy saving opportunities, whilst 46% disagreed with this.

However, when answers from those participating in previous phases are compared to those who didn’t for a range of other questions, there is generally relatively little difference. For example, those participating in previous phases were actually more likely to be satisfied with their audit quality (78% vs. 71% for those who only participated in Phase 3). Regardless of previous participation, a similar proportion reported that the audit report provided new information (54% for those participating in previous phases, 53% for those who did not).

Extent to which the Theory of Change is evidenced by the interim evaluation findings

Evidence of key logical steps being present

There is clear evidence that several of the early-stage mechanisms in the ToC are functioning as intended. Participation in ESOS continues to generate engagement with audit activity, with most organisations undertaking audits or equivalent processes and reporting that these provide useful insights. Audit outputs are associated with the identification of multiple energy saving measures.

Phase 3 changes have further strengthened monitoring and accountability mechanisms. The introduction of Action Plans and Progress Updates has led to positive engagement, with high submission rates and a large volume of measures being recorded (though the proportion of participants complying drops off at later stages such as for Progress Update). These mechanisms have improved the visibility of planned and implemented actions and enabled more detailed tracking of potential energy savings.

There is also some evidence that ESOS continues to influence organisational behaviour. A proportion of participants report that the scheme has increased internal engagement with energy use and energy efficiency, including some evidence of increased senior-level attention. In line with earlier phases, ESOS appears to support the identification and, in some cases, acceleration of energy efficiency measures (though most evidence comes from Phases 1 and 2), contributing to realised and projected energy savings.

Evidence around the absence of key logical steps

However, evidence suggests that several key ToC pathways are only partially realised, or are subject to alternative explanations.

First, the identification of new information and new energy saving opportunities from audits appears not as high expected by the ToC. Only around half (54%) felt the audit provided them with new information, and around 85% had previously considered at least some recommended measures; 28% had previously considered all the recommended measures. Two-thirds reported that the audit provided additional verification, confirmation or evidence to supplement existing information or proposals. For some participants the audit process may be reinforcing existing knowledge rather than generating new insights.

Second, based on this interim evidence, there is limited evidence of strong additionality in implementation. Many participants report that they would have implemented measures in the absence of ESOS, indicating that the scheme often plays a supporting or accelerating role rather than being the primary driver of action. This translates into a relatively small proportion of energy savings in Progress Updates being ultimately attributable to ESOS. This suggests the link between ESOS participation and outcomes assumed in the ToC is not always present.

Third, the generation of increased awareness and information and their translation into sustained behavioural change does not always follow the ToC assumptions. While some participants report increased awareness and motivation, this is not universal, and evidence suggests that ESOS increased pressure to act for more businesses than it raised awareness for, suggesting that awareness raising may not always be necessary to create pressure to act.

Finally, there are some indications that the marginal impact of successive participation may be declining, particularly for organisations that have participated in previous phases. For example, only 40% of those who have participated in previous phases agreed that ESOS is still a useful process to go through, whilst 39% disagreed. However, for other results, there are limited differences in results between those who have participated in previous phases and those who are new to Phase 3.

Annex 1: Theory of change

The theory of change presented in this interim evaluation report is underpinned by a number of assumptions and is characterised by potential risks and alternative explanations. The rest of this annex outlines the key factors to consider when interpreting the theory of change.

Assumptions

- Successive audits on the same companies continue to yield benefits in terms of energy savings identified and actioned
- Businesses will continue to implement measures in successive phases, even if these require larger changes than in previous phases (e.g. if they have implemented the 'easy' measures in phases 1 and 2).
- We also assume that businesses will invest in energy efficiency for the longer term, and that changes made as part of ESOS are maintained in future and are not reversed.
- Possible that awareness of energy usage has increased due to higher energy prices, as well as general awareness of reducing carbon footprint. In the absence of ESOS, applicable organisations would not have identified the energy saving opportunities.
- The cost-saving benefits of implementing energy saving recommendations outweighs the investment costs and opportunity costs of ESOS compliance.
- Businesses will act on measures deemed as cost effective.
- Applicable businesses have the capability to cover the initial investment costs for the energy saving measures recommended through ESOS assessments (including capital, hassle and opportunity costs).
- The energy efficiency and energy auditing sector has the capacity to meet the increased demand for goods and services due to ESOS.
- ESOS reporting (particularly around action plans) presents a significant incentive for businesses to act on energy efficiency measures.

Risks and alternative explanations

- ESOS applies across all sectors – there are some sectors which have other specific reporting measures or are likely to conduct their own audits.
- Similarly, diverse landscape of reporting requirements may limit the impact of ESOS specifically
- There is a broadly high burden of compliance across participating organisations, despite benefits being varied
- Changes to the scheme will likely increase the admin burden but may not lead to any additional energy savings beyond what is already planned

- Other market failures which have prevented businesses from investing in energy efficiency such as misaligned financial incentives, which is not addressed so much by ESOS, may continue to prevent businesses from taking action
- Enterprises may continue to see ESOS as simply a compliance activity, without taking proper consideration of recommended measures
- Rebound risk – enterprises may take advantage of increased energy efficiency by increasing energy-using operations. Alternatively, the increased revenue due to energy savings may be invested in other energy consuming activities. Both outcomes limit the potential reductions in energy consumption

Annex 2: Evaluation questions

1. How have participants and lead assessors found the process of complying with the ESOS Phase 3?

    1.1. What proportion of organisations in scope of ESOS complied with its requirements? Has the profile of non-compliers changed from previous phases?

    1.2. How and when did relevant undertakings and assessors learn about the new requirements for Phase 3? How well were the changes to ESOS communicated? What could be improved for the next phases?

    1.3. Did participants and assessors feel they had access to the right information and support in preparing for and complying with ESOS Phase 3?

    1.4. How did participants find using the MESOS platform? Do organisations feel it has been an improvement on the previous system?

    1.5. To what extent have participants accessed and used the ESOS data published on GOV.UK?

    1.6. For companies that also comply with SECR, ETS, CCA, EPC and MEES, has Phase 3 ESOS audit in any way helped or hindered compliance with these other schemes? Has complying with Phase 3 in any way helped or hindered preparation for Transition Plans and the UK Sustainability Reporting Standards?

2. To what extent has the assessor market in Phase 3 supported the needs of ESOS–obligated organisations?

    2.1. Supply vs demand: How easy or difficult was it for participants to find a suitable lead assessor, with the right specialist knowledge of their industry, to provide an audit when needed?

    2.2. How did participants gauge the suitability of possible assessors? What factors are important when searching for and choosing an assessor – such as cost, expertise of industry, quality of past work?

    2.3. How easy do organisations find this process of finding a suitable assessor? I.e. do they know what they are looking for and is that information easy to obtain?

    2.4. For organisations that complied with Phase 1 and/or 2, have organisations used the same or different assessors, and why?

    2.5. Quality: Have participants received high-quality audits from lead assessors? Are organisations confident in assessors' findings and that the recommendations useful/relevant?

2.6. Quality: What do professional bodies do to ensure lead assessors on their registers provide high-quality audits? How do they identify and rectify any quality issues among lead assessors on their registers?

2.7. Poor quality issues: What have participants done if the quality of their audit is not to the required standard (either from the business' perspective or the regulator's)? Are participants aware of the recourse available to them if they receive a poor-quality audit?

2.8. Poor quality issues: What do participants and energy assessors think could have been done differently to improve the quality of findings and usefulness of recommendations? (E.g. more resource on the assessment, more specialised and tailored assessment.)

2.9. What proportion of participants arranged for audits that specifically addressed other objectives, e.g. net zero recommendations?

3. To what extent, and in what ways, does ESOS affect organisations' decisions to implement energy saving measures? How have the additional requirements introduced in Phase 3 – particularly the reporting requirements – changed this?

3.1. What proportion of, and which, organisations would conduct energy audits in absence of a regulatory requirement?

3.2. How have the Phase 3 changes affected overall engagement with the scheme and senior management engagement with energy usage and energy efficiency recommendations?

3.3. How many and what type of energy saving measures have been identified and implemented that would not have been in absence of ESOS? What is the nominal energy saving potential of these measures? How has this changed compared to Phase 1?

3.4. Do successive audits continue to identify new insights and produce valuable recommendations for organisations that have participated in ESOS previously and/or undertaken recent energy efficiency measures?

4. By how much does ESOS reduce energy consumption? What is the resulting change in emissions?

4.1. To what extent are measures implemented from Phase 1 and/or 2 still providing savings (i.e. beyond what would have happened in absence of the audits)?

4.2. By how much has ESOS Phase 3 reduced energy consumption?

5. What has been the total cost of complying with Phase 3 of ESOS, in particular with the additional requirements imposed? How do these costs compare to those found in the previous evaluation?

6. To what extent do ESOS audits result in other costs and benefits? E.g. reputational improvements, complementing or distracting from organisations' own sustainability objectives?

7. What is the estimated net present social value of ESOS, and how does this compare to those estimates in the 2014 and 2023 impact assessments when adjusted over a comparable time period?

Annex 3: Investigation of MESOS data and associated exclusions and modifications

Duplicate NOCs

There were 7 company registration numbers which were duplicated (14 cases). 5 companies had submitted two separate NOCs, one with their Action Plan and one without, so for these cases the NOC without their Action Plan was deleted. For one case the company names were completely different, so it was assumed that the company registration for one was in error. Since the company registration could not be paired with any of the other files anyway, both were included. For one case it appeared the parent company and a division of the company had both done the audit completely separately. In this case, only the parent company was included.

Exclusion of energy producers and transmitters

A small sample of the largest energy producers and transmitters were reviewed, comparing ESOS Phase 3 energy consumption figures against SECR-reported figures. The SECR disclosures for these companies sometimes provided information on how much energy had been consumed (e.g. through losses and transmission) and how much had been passed onto other users. In all cases, the comparisons strongly suggested that these large energy producers and transmitters had included in their ESOS total energy consumption figures all energy that passed through their organisations, including that which they themselves did not use but which flowed to end users. For example companies that own power plants appeared to have included in their total ESOS energy consumption the energy that they passed to the grid as useable electricity.

This is problematic for analysis on two grounds. Firstly, this double counts the electricity usage reported by other ESOS participants. Secondly, the energy producers and consumers would have no ESOS-related measures for the useable energy they pass onto others. Allowing this double counting of energy consumption would underestimate the energy savings made as a proportion of total energy consumption.

No means of modifying the ESOS figures was deemed defensible, so instead the pragmatic decision was taken to attempt to exclude all energy producers and transmitters from the analysis.

Participants were deemed to be an energy producer or transmitter if they met at least one of the two conditions below:

- They had recorded in their ESOS NOC submission a Standard Industrial Classification (SIC) related to energy supply (SIC codes starting with ‘35’)

- They were one of the 34 participants manually identified as energy producers from a list of 44 participants that reported industrial or other process energy consumption over 2 TWh

Application of exclusions across MESOS-related datasets

For the survey-MESOS matching, all the same exclusions were applied as were flagged for the Notification of Compliance data, the Progress Update data (when the data concerned this), and the Action Plan data (when the data concerned this). In addition, if there were any issues with finding a specific match, the measure and relevant survey data was excluded.

Inconsistencies in Action Plan data

When annualising reported Action Plan savings, a discrepancy in the resulting annualised figures was observed. Measures with implementation dates close to the end of the period (November and December 2027), which accounted for about 10% of recorded measures, had annualised savings many orders of magnitude higher than the annualised figures for measures with earlier implementation dates.

The research team manually reviewed some of the measures with implementation dates in late 2027, selecting the top 100 measures by size of energy savings. These 100 measures accounted for half of the total savings from measures with implementation dates in November and December 2027. Information in the fields ‘measure context’ and ‘estimation method’ were used to assess the time period the savings covered.

For 81 of these measures it was not possible to determine from the submitted information how savings had been calculated. Ten of the measures related to progressive programmes that had started before 2027, with savings clearly reported as a cumulative total to the end of 2027. The remaining nine measures were clearly explained as being reported in annualised terms. As such, it was clear that there was at least some inconsistency in how savings had been reported for measures in late 2027. The implications of this for interpretation are explained in the main body of the report in the Methodology section.

To test whether this issue was more widespread, 2024-25 annual Progress Update savings were cross-referenced against annualised Action Plan savings for measures implemented before the 2024-25 period. As such, the 2024-25 savings should represent a full year. The annual figures from the Progress Update were very similar to the annualised figures derived from Action Plans. This suggests that any major divergence in reporting approach was likely limited to measures with late 2027 implementation dates rather than across the dataset as a whole.

There were several approaches that could be used to modify these late 2027 measures so that the annualised savings were more reliable, each of which have infer different underlying assumptions and could lead to an over- or underestimation of the Action Plan total and annualised savings. These are set out in Table 13.

Table 13: The impact of different approaches to modifying the recorded and annualised savings estimated for late 2027 Action Plan measures

Assumption	Treatment of late 2027 measures	Action Plan savings 2023-2027 (TWh)	Annualised Action Plan savings (TWh)	Accuracy of 2023-2027 savings	Accuracy of annualised savings
Data on late 2027 measures is correct	Treated like all other measures	16.42	12.96	Could be overestimated due to some late 2027 measures having 2023-2027 savings recorded as annual savings. Could be underestimated due to the exclusion of some late 2027 measures based their annualised savings being over 20% of the participant's annual energy consumption, despite the annualised savings likely being overinflated.	Likely overestimated due to some late 2027 measures having 2023-2027 savings recorded as annual savings. This leads to overinflation of the savings when they are annualised.
Data on late 2027 measures is completely incorrect	Excluded	16.29	7.43	Some late 2027 measures may have been recorded correctly, so could be underestimated.	Some late 2027 measures may have been recorded correctly, so could be underestimated.

Assumption	Treatment of late 2027 measures	Action Plan savings 2023-2027 (TWh)	Annualised Action Plan savings (TWh)	Accuracy of 2023-2027 savings	Accuracy of annualised savings
2023-2027 savings data on late 2027 measures were correct, but the recorded planned implementation date was incorrect, they were all actually planned to be implemented in December 2026	2023-2027 savings are kept as is, and annual savings mirror the 2023-2027 savings	18.15	9.29	Likely overestimated due to some late 2027 measures having 2023-2027 savings recorded as annual savings, despite being planned to be implemented in late 2027.	Some late 2027 measures may have been recorded correctly, so could be underestimated.
For the late 2027 measures, participants recorded annual savings where they should have recorded their 2023-2027 savings. The exclusion which takes out measures projected to save over 100,000,000 KWh over 2023-2027 was intended to mainly remove typos rather than records which were so high they were likely calculated incorrectly.	The recorded 2023-2027 savings are moved to annual savings, and the 2023-2027 savings are recalculated based on the annual savings and the planned implementation date. The exclusion of measures over 100,000,000 KWh is applied before this amendment.	16.33	9.29	Some late 2027 measures may have been recorded correctly, so could be underestimated.	Some late 2027 measures may have been recorded correctly, so could be underestimated.

Assumption	Treatment of late 2027 measures	Action Plan savings 2023-2027 (TWh)	Annualised Action Plan savings (TWh)	Accuracy of 2023-2027 savings	Accuracy of annualised savings
For the late 2027 measures, participants recorded annual savings where they should have recorded their 2023-2027 savings. The exclusion which takes out measures projected to save over 100,000,000 KWh over 2023-2027 was intended to mainly remove records which were so high they were likely calculated incorrectly, rather than typos.	The recorded 2023-2027 savings are moved to annual savings, and the 2023-2027 savings are recalculated based on the annual savings and the planned implementation date. The exclusion of measures over 100,000,000 KWh is applied after this amendment.	16.40	11.19	Some late 2027 measures may have been recorded correctly, so could be underestimated. On the other hand, since the 2023-2027 savings are artificially reduced before the 100,000,000 KWh exclusion is applied, incorrectly entered values could still be included since they have been brought down to just below the threshold.	Some late 2027 measures may have been recorded correctly, so could be underestimated. On the other hand, since the 2023-2027 savings are artificially reduced before the 100,000,000 KWh exclusion is applied, incorrectly entered values could still be included since they have been brought down to just below the threshold.

Assumption	Treatment of late 2027 measures	Action Plan savings 2023-2027 (TWh)	Annualised Action Plan savings (TWh)	Accuracy of 2023-2027 savings	Accuracy of annualised savings
Late 2027 measures are just as likely as other measures to have their annual savings recorded where their 2023-2027 savings should be recorded.	Treated like all other measures, but a new exclusion is added in which removes measures which have annualised savings of over 100,000,000 KWh	16.39	10.85	Could be overestimated due to some late 2027 measures having 2023-2027 savings recorded as annual savings. Could be underestimated due to the exclusion of some late 2027 measures based their annualised savings being over 20% of the participant's annual energy consumption, despite the annualised savings likely being overinflated.	Could be overestimated, since the exclusion threshold is fairly arbitrary, and it does not directly account for the issue of some late 2027 measures having 2023-2027 savings recorded as annual savings.

After consideration of the options, it was decided to assume annual savings had been recorded where 2023-2027 savings should have been recorded for all late 2027 measures, but the implementation date was correct and the 100,000,000 KWh exclusion was applied afterwards.

Adjustment of attribution percentages

Due to the lack of any Progress Update measures reported on in the survey which were of the Other Process or Industrial Process energy type and the lowest energy consumption band, an assumption was made about the attribution percentages for those two combinations. Several options were tested, with very minimal impact on the final attribution percentages (Table 14). It was decided to use the same attribution percentage as the 900,001 to 3,250,000 energy consumption band, since there was generally more variation between energy types than between the first and second energy consumption band.

Table 14: Assumptions tested to address the missing Progress Update measure type combinations reported on in the survey

Assumed attribution % for Other Process and Industrial Process Progress Update measures from companies in the 900,000 or lower band energy consumption band	900,000 or lower band energy consumption band Progress Update attribution %	Total Progress Update attribution % across all energy consumption bands and energy types
0%	52.24%	15.70%
100%	54.25%	15.71%
Same % as 900,001 to 3,250,000 energy consumption band	52.81%	15.70%
Average attribution % for the 900,000 or lower band regardless of energy type	53.38%	15.71%

Annex 4: Scheme eligibility requirements

Further changes between phases of ESOS

For Phases 1 and 2 the financial qualification thresholds were set in Euros, and for Phase 3 they were changed to Sterling following the UK's departure from the EU.

Corporate groups

Eligibility is assessed at the highest corporate group level, meaning that if one UK undertaking within a corporate group meets the criteria (based on its unconsolidated accounts), all UK undertakings in that group are required to comply. Unlike UK company financial reporting, the extent of the corporate group extends to all UK subsidiaries of an overseas owner. For instance, a company that does not itself meet ESOS criteria can be brought into scope by another company outside of its immediate UK corporate group, so long as the two companies are part of the same international corporate group.

Two-year rule

The Companies Act 2006 includes a 'two-year' rule which applies to ESOS eligibility and means historic data for companies needs to be assessed before it can be judged as in-scope of the regulations. The logic for the two-year rule is demonstrated in the examples below.

- In its first accounts, if a company meets the eligibility criteria, it is in scope of ESOS unless and until it does not meet the criteria for two consecutive years

Table 15: Example table to demonstrate the two-year rule

	Previous account (-3)	Previous account (-2)	Previous account (-1)	Most recent account	In scope
Company A	-	-	-	First account: meets 2 of 3 criteria	Yes
Company B	-	First account: Meets 2 of 3 criteria	Meets 1 of 3 criteria	Meets 2 of 3 criteria	Yes
New Company C	-	First account: Meets 2 of 3 criteria	Meets 1 of 3 criteria	Meets 1 of 3 criteria	No

- For companies that have filed previously, a company needs to have met the criteria for two consecutive years at some point and since that point has not failed to meet the criteria for more than one year consecutively. In practice, this means that a company is not necessarily in scope just because it meets the criteria in a given year.

Table 16: Second example table to demonstrate two-year rule

	Previous account (-3)	Previous account (-2)	Previous account (-1)	Most recent account	In scope
Company A	Meets 1 of 3 criteria	Meets 1 of 3 criteria	Meets 2 of 3 criteria	Meets 2 of 3 criteria	Yes
Company B	Meets 1 of 3 criteria	Meets 2 of 3 criteria	Meets 2 of 3 criteria	Meets 1 of 3 criteria	Yes
Company C	Meets 1 of 3 criteria	Meets 1 of 3 criteria	Meets 1 of 3 criteria	Meets 2 of 3 criteria	No
Company D	Meets 2 of 3 criteria	Meets 2 of 3 criteria	Meets 1 of 3 criteria	Meets 2 of 3 criteria	Yes
Company E	Meets 1 of 3 criteria	Meets 2 of 3 criteria	Meets 1 of 3 criteria	Meets 2 of 3 criteria	No

Annex 5: Survey cost data tables

Table 17: Mean number of hours spent on each ESOS compliance stage reported by survey respondents across different occupations

Note that the overall figure of 128 is calculated from those that provided an answer at all phases – it therefore slightly differs from the sum of the individual stage totals quoted below (which equals 133 hours).

	All staff	Directors	Senior managers	Middle managers	Admin staff
1. Finding out about, and understanding the scheme requirements, including whether your organisation was eligible (n=538)	31.1	3.1	7.0	8.7	12.4
2. Deciding whether, and through what route, to comply with ESOS (n=544)	13.1	1.9	4.4	4.1	2.7
3. Training or accrediting / Procuring an auditor/assessor (n=519)	9.1	1.1	3.2	3.6	1.2
4. Supporting auditor / assessor in compliance activity (n=557)	45.8	4.5	12	17.5	11.8
5. Submitting Notification of Compliance (NOC) (n=550)	7.4	1	2.5	2.5	1.4
6. Reviewing and signing off audit report (n=559)	7.6	1.8	2.5	2.2	1.2
7. Creating and submitting the Action Plan (n=555)	11.3	1.5	4	4.2	1.7
8. Creating and submitting the first Progress Update (n=546)	7.6	0.9	2.5	2.7	1.5

Table 18: Mean number of hours spent on all ESOS compliance stages reported by survey respondents across different occupations, split by the annual turnover of participating companies

	Directors	Senior managers	Middle managers	Admin staff
Over £1m but not more than £50m	1.6	4.0	3.9	3.7
Over £50m but not more than £100m	2.5	6.5	3.8	5.4
Over £100m but not more than £200m	1.4	4.0	6.1	3.4
Over £200m+	2.7	5.5	8.6	4.8
Unknown	0.9	2.5	6.6	2.8

Table 19: Mean number of hours spent on all ESOS compliance stages reported by survey respondents across different occupations, split by the employee count of participating companies

	Directors	Senior managers	Middle managers	Admin staff
Under 250	1.6	3.1	5.6	3.8
250 to 499	1.6	5.4	3.7	4.2
500 to 999	3.7	5.1	6.8	5.3
1,000 or more	1.7	5.8	7.8	3.8

Table 20: Mean number of hours spent on all ESOS compliance stages reported by survey respondents across different occupations, split by the annual energy consumption of participating companies

Energy consumption band (MWh)	Directors	Senior managers	Middle managers	Admin staff
900 or lower	1.0	2.6	2.9	2.0
>900 to 3,250	3.1	4.9	3.1	2.7
>3,250 to 8,500	2.1	4.3	7.6	8.2
>8,500 to 28,250	1.7	5.4	5.3	4.5
>28,250	1.8	6.6	9.7	3.6

Table 21: External costs reported by survey respondents

To note, 'don't know' responses have been excluded from the calculations that produce the figures below. This means the mean cost for all participants is slightly different to the result of multiplying the proportion of respondents that incur the cost by the mean cost for those participants. In addition, the calculation of the combined mean for external assessors and consultants excludes more participants (i.e. it excludes participants if they provided a 'don't know' responses for either category), meaning this figure is slightly different to the sum of the individual means.

	% respondents that incur this cost	Mean cost for those that incur this cost (£)	Standard deviation of the cost for those that incur this cost	Mean costs for all participants (£)	Standard deviation of the cost for all participants
External lead assessor	96%	9,688	12,654	8,065	12,097
Other external consultants	28%	9,783	12,262	2,864	7,980
External lead assessors + other external consultants	96%	12,384	15,757	11,410	15,488

Annex 6: Supplementary statistics from MESOS analysis

Figure 35: TWh annual savings identified in the ESOS Phase 3 audit

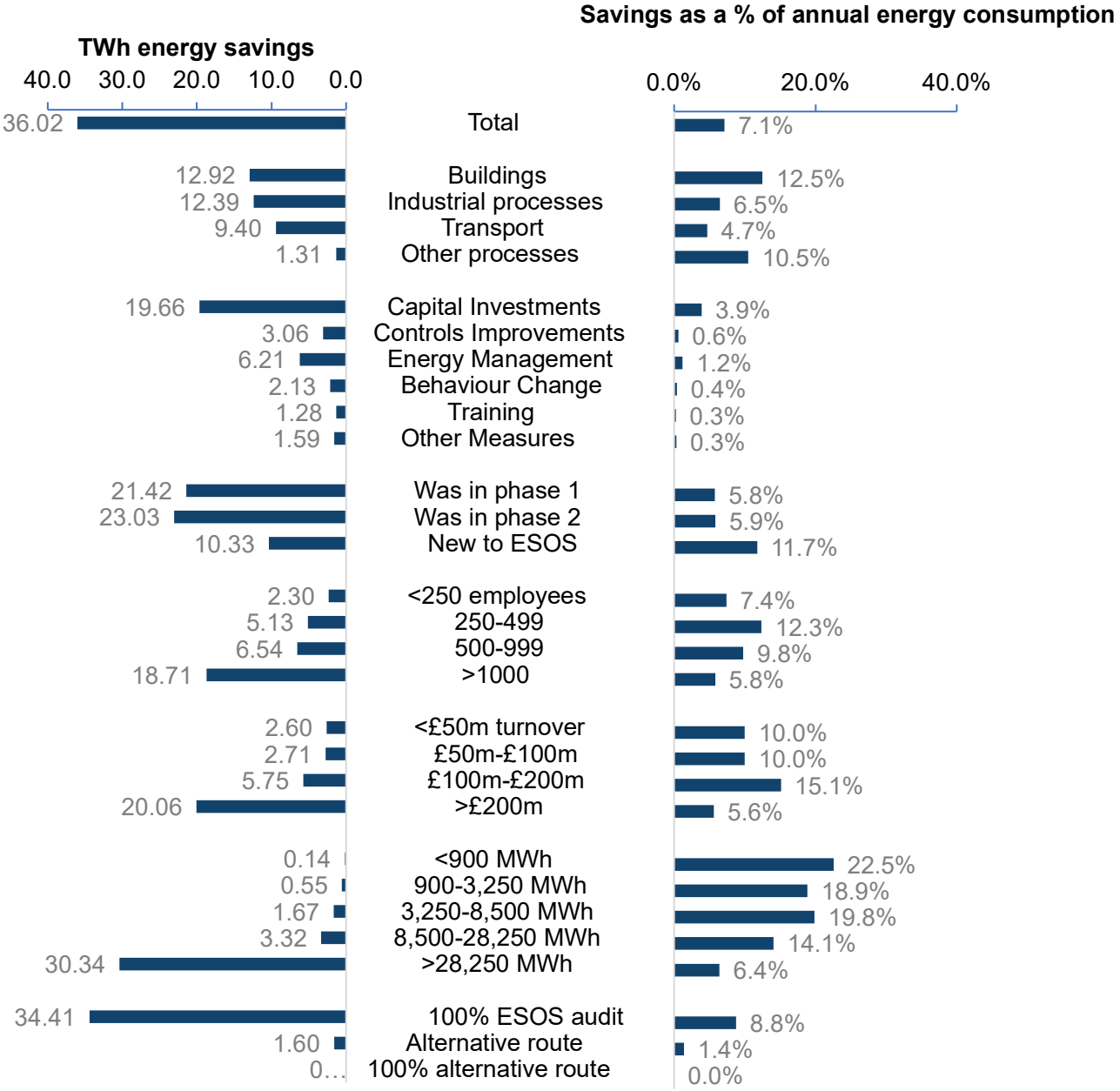


Table 22: Action Plan measures identified in the original ESOS audit and their energy saving potential, alongside the number of measures which contribute to energy savings for different energy types

	Total	Buildings	Industrial processes	Transport	Other processes
Total number of measures	21,800	16,200	3,500	2,000	500
Mean number of measures	3.4	2.5	0.5	0.3	0.1
Total TWh of savings 2023-2027	7.8	2.9	3.4	1.1	0.3
Total TWh of savings annualised	4.9	1.7	2.0	0.7	0.5
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group	1.0%	1.6%	1.0%	0.4%	3.8%
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	1.0%	1.8%	1.1%	0.4%	4.1%

Table 23 Action Plan measures identified in the original ESOS audit and their energy saving potential, split by whether the participant also participated in ESOS Phase 1 and 2

	Participated in Phase 1	Participated in Phase 2	Not known to have participated in previous phases
Total number of measures	11,200	13,600	7,000
Mean number of measures	3.7	3.6	3.1
Total TWh of savings 2023-2027	5.0	5.6	1.6
Total TWh of savings annualised	3.3	3.6	1.0
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group	0.9%	0.9%	1.1%

	Participated in Phase 1	Participated in Phase 2	Not known to have participated in previous phases
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	0.9%	1.0%	1.3%

Table 24: Action Plan measures identified in the original ESOS audit and their energy saving potential, split by company size (defined by employee count)

	Smaller companies (<250 employees)	Medium-small companies (250-499 employees)	Medium-large companies (500-999 employees)	Very large companies (>1000 employees)
Total number of measures	2,900	5,600	5,200	6,900
Mean number of measures	2.6	3.0	3.4	4.3
Total TWh of savings 2023-2027	0.9	0.8	2.0	3.6
Total TWh of savings annualised	0.5	0.5	1.2	2.3
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group	1.8%	1.3%	1.8%	0.7%
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	2.0%	1.5%	1.9%	0.8%

Table 25: Action Plan measures identified in the original ESOS audit and their energy saving potential, split by company size (defined by annual turnover)

	Small companies (<£50m annual turnover)	Medium-small companies (£50-£100m annual turnover)	Medium-large companies (£100m-£200m annual turnover)	Large companies (>£200m annual turnover)
Total number of measures	5,700	3,700	3,500	6,500
Mean number of measures	3.0	3.0	3.4	4.0
Total TWh of savings 2023-2027	0.7	0.7	1.0	4.7
Total TWh of savings annualised	0.4	0.4	0.5	3.1
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group	1.7%	1.5%	1.3%	0.9%
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	2.0%	1.7%	1.5%	0.9%

Table 26: Action Plan measures identified in the original ESOS audit and their energy saving potential, split by company size (defined by annual energy consumption)

	<900 MWh	900-3,250 MWh	3,250-8,500 MWh	8,500-28,250 MWh	>28,250 MWh
Total number of measures	2,500	3,900	4,800	4,900	5,700
Mean number of measures	2.0	3.0	3.7	3.9	4.4
Total TWh of savings 2023-2027	>0.1	0.2	0.5	1.0	6.1
Total TWh of savings annualised	>0.1	0.1	0.3	0.6	3.9
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group	3.6%	3.5%	3.5%	2.5%	0.8%

	<900 MWh	900-3,250 MWh	3,250-8,500 MWh	8,500-28,250 MWh	>28,250 MWh
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	4.4%	4.2%	4.2%	2.9%	0.9%

Table 27: Action Plan measures identified in the original ESOS audit and their energy saving potential, split by compliance route

	100% ESOS (excluding exempted 5%)	At least partly another route	100% another route
Total number of measures	20,900	900	400
Mean number of measures	3.6	1.7	1.3
Total TWh of savings 2023-2027	7.3	0.4	0.2
Total TWh of savings annualised	4.6	0.3	0.1
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group	1.2%	0.3%	0.2%
Annualised energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	1.3%	0.3%	0.2%

Table 28: Descriptive statistics of Progress Update data provided through MESOS, split by whether or not the measures were in the Action Plans

	Total	Action plan measures	Additional measures
Total number of measures in the Progress Update	27,300	25,800	1,600
Total TWh of savings from Progress Update measures (2023-2025)	4.63	4.15	0.48
Total TWh of savings from Progress Update measures (2024-2025)	3.78	3.33	0.45

	Total	Action plan measures	Additional measures
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group	0.75%	0.66%	0.09%
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	0.91%	0.80%	0.11%

Table 29: Descriptive statistics of Progress Update data provided through MESOS, split by different enterprise sizes (defined by employee count)

	Small companies (<250 employees)	Medium-small companies (250-499 employees)	Medium-large companies (500-999 employees)	Large companies (>1000 employees)
Total number of measures in the Progress Update	3,400	6,400	6,200	9,600
Total TWh of savings from Progress Update measures (2023-2025)	0.35	0.46	0.99	2.60
Total TWh of savings from Progress Update measures (2024-2025)	0.33	0.42	0.84	2.00
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group	1.05%	1.00%	1.26%	0.62%
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	1.58%	1.46%	1.66%	0.73%

Table 30: Descriptive statistics of Progress Update data provided through MESOS, split by different enterprise sizes (defined by annual turnover)

	Small companies (<£50m annual turnover)	Medium-small companies (£50-£100m annual turnover)	Medium-large companies (£100m-£200m annual turnover)	Large companies (>£200m annual turnover)
Total number of measures in the Progress Update	6,400	4,600	4,200	9,300
Total TWh of savings from Progress Update measures (2023-2025)	0.28	0.30	0.49	3.20
Total TWh of savings from Progress Update measures (2024-2025)	0.25	0.26	0.43	2.52
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group	0.94%	0.95%	1.14%	0.71%
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	1.39%	1.53%	1.64%	0.82%

Table 31: Descriptive statistics of Progress Update data provided through MESOS, split by whether the participant also participated in ESOS Phase 1 and 2

	Participated in Phase 1	Participated in Phase 2	Not known to have participated in previous phases
Total number of measures in the Progress Update	15,100	17,800	8,100
Total TWh of savings from Progress Update measures (2023-2025)	3.09	3.60	0.82
Total TWh of savings from Progress Update measures (2024-2025)	2.58	2.97	0.63

	Participated in Phase 1	Participated in Phase 2	Not known to have participated in previous phases
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group	0.70%	0.76%	0.72%
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	0.80%	0.88%	1.08%

Table 32: Descriptive statistics of Progress Update data provided through MESOS, split by different enterprise sizes (defined by energy consumption)

	<900 MWh	900-3,250 MWh	3,250-8,500 MWh	8,500-28,250 MWh	>28,250 MWh
Total number of measures in the Progress Update	2,600	4,300	5,700	5,900	9,000
Total TWh of savings from Progress Update measures (2023-2025)	0.01	0.05	0.14	0.32	4.10
Total TWh of savings from Progress Update measures (2024-2025)	0.01	0.05	0.11	0.27	3.34
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group	1.72%	1.62%	1.35%	1.13%	0.71%

	<900 MWh	900-3,250 MWh	3,250-8,500 MWh	8,500-28,250 MWh	>28,250 MWh
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	3.15%	2.68%	2.11%	1.76%	0.85%

Table 33: Descriptive statistics of Progress Update data provided through MESOS, split by compliance route

	100% ESOS (excluding exempted 5%)	At least partly another route	100% another route
Total number of measures in the Progress Update	24,800	2,500	1,000
Total TWh of savings from Progress Update measures (2023-2025)	3.83	0.80	0.44
Total TWh of savings from Progress Update measures (2024-2025)	3.20	0.58	0.29
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group	0.82%	0.50%	0.56%
2024-2025 energy savings as a proportion of the annual energy consumption of all companies in the sub-group that submitted an Action Plan	0.99%	0.62%	0.70%

Annex 7: Systematic early assessment of new requirements as part of Phase 3

Table 34: Systematic early assessment of new requirements as part of Phase 3

	Detailed requirement	Assessment at this stage of the evaluation
Stronger audit requirement	Standard information in ESOS reporting	It is difficult to disentangle the impact of this specific element of Phase 3. However, overall audit quality is generally seen as high with the main outputs being useful for participants.
	Require energy intensity ratios (required for each organisational 'purpose', such as buildings, transport, industrial processes, etc.)	The audit review (to be included in the final report), will assess the extent to which audits complied with the new requirements to provide energy intensity ratios.
	Reduce the amount of a business's total energy that can be classed as 'de minimis' (and therefore out of scope of the audit) from 10% to 5%	It is difficult to disentangle the impact of this specific change compared to others made as part of Phase 3. However, more systematic analysis of interviews included in the final report will highlight whether this was raised by participants.
	Participants to justify site sampling methodology	The audit review (to be included in the final report), will assess the extent to which audits provided a justification of site sampling methodology.
	ESOS reports to be disseminated to subsidiaries	Evidence is limited on this point. No substantive points on this raised during interviews with participants. To be monitored in final report.
Assessment quality	Requirements for next steps: provide suggested work programme, identify implementation considerations such as leasing, Minimum Energy Efficiency Standard regulations and government financial support	The audit review (to be included in the final report), will assess the proportion of audits taking account of these considerations.
	(Optional) recommendations template, including identifying behavioural interventions	The audit review (to be included in the final report), will assess the proportion of participants that used the recommendations template.

	Detailed requirement	Assessment at this stage of the evaluation
Additional reporting requirements	Require organisations to produce an action plan and progress reports, to be publicly disclosed	The introduction of Action Plans and Progress Updates represents a significant shift in ESOS towards greater accountability for implementation. Emerging evidence suggests relatively strong initial engagement with these requirements, with a substantial proportion of participants submitting Action Plans and identifying a large volume of potential energy saving measures. However, there are indications that participation declines across different stages of the process, and evidence on the extent to which these mechanisms are driving sustained implementation is still developing. At this stage, APs and PUs appear to have strengthened the monitoring and visibility of planned actions, though it is too early to draw firm conclusions on their effectiveness in increasing realised energy savings.
	Require participants to submit additional data from their report to the Environment Agency as part of existing notification process, including total energy consumption, predicted savings and savings achieved. The Environment Agency in turn publish this data.	Phase 3 has introduced more structured reporting and publication of ESOS data, including information on total energy consumption, predicted savings, and progress against these savings. This has improved the availability of data for monitoring and evaluation purposes, enabling more granular analysis of outcomes across participants. Survey evidence suggests that awareness of published ESOS data is mixed, and there is limited indication that data publication is currently acting as a strong driver of behaviour change or compliance. As such, while these changes represent an important step towards greater transparency, their influence on participant behaviour appears to be limited at this stage. Interviews with DESNZ and the Environment Agency as part of the final evaluation will validate whether additional reporting requirements have been useful for internal monitoring.

Annex 8: Linkage of MESOS data to other datasets

Turnover and headcount data from FAME

This report uses data on turnover and headcount taken from a proprietary business database called FAME (Financial Analysis Made Easy) which was linked to ESOS participants.

The linking approach consisted of taking Company Registration Numbers (CRN) reported in MESOS for each undertaking (i.e. every company in each group that participated), loading these into FAME, and where possible extracting turnover and headcount data for 2022 for every undertaking reported in MESOS. The year 2022 was chosen as Phase 3 qualification was determined based on an undertaking's size on the 31 December 2022. Turnover data in FAME was able to be linked to 93% of participants and headcount data for 91%.

For single-entity participants, such as a single company not part of a larger corporate group, the FAME data was used directly, without modification. For participants made up of multiple undertakings, the aim was to estimate the total turnover and headcount across all undertakings for that participant. FAME data are drawn from company accounts, which may be filed on either an 'unconsolidated' basis (covering only that individual entity) or a 'consolidated' basis (covering both the entity itself and its subsidiaries). Where at least one company in the group files consolidated accounts, summing the reported headcount and turnover across all entities found in FAME would result in double counting. The following pragmatic rules were therefore applied to estimate participant-level turnover and headcount:

- If at least one entity within the participant filed consolidated accounts, the turnover and headcount were taken from the company with the largest consolidated figures (i.e. likely the highest parent of the group).
- If all entities within the participant filed unconsolidated accounts, turnover and headcount were summed across all these entities.

Linking to IDBR and establishing cross-phase participation

To assess differences between new and repeat ESOS participants, participant details were linked between datasets for each of the three phases. This used published data[93] from phases 1 and 2 and unpublished data on Phase 3 extracted in December 2025. Due to incomplete and inconsistent identifiers across phases, explained below, participants for each phase were first matched to the IDBR (Inter-departmental Business Register), a comprehensive list of UK businesses maintained by the Office for National Statistics.

[93] ESOS Phase 1 and ESOS Phase 2.

A corporate group (i.e. consisting of multiple undertakings) can take part in ESOS as a single participant. One of the constituent undertakings must take responsibility for ensuring compliance, termed the ‘Responsible Undertaking’. For Phase 3 the MESOS system collected accurate and relatively comprehensive identifying information (e.g. name and CRN) for both the ‘responsible undertaking’ and all other undertakings that constituted the participant. For Phases 1 and 2, only identifiers for the ‘responsible undertaking’ were available and these data contained more missing values, including missing registration numbers, and greater variation in data-entry formats.

The ‘Responsible Undertaking’ for a corporate group could change between phases. If matching between phases only on Responsible Undertaking, this would likely miss some groups that participate in multiple phases.

The approach therefore linked the Responsible Undertakings for each phase to the IDBR, which allowed information on other parts of the corporate group to be used when assessing participation across phases. The linking aim was then to find whether an IDBR enterprise or any of its constituent components appeared in multiple phases of ESOS. Where different individual entities in different phases lined to the same IDBR enterprise, the participant was treated as having participated in multiple ESOS phases. This was considered a reasonable inference as ESOS applies on a whole corporate-group basis. In practice there may be a small number of instances where only part of a corporate group participated and the remainder of the group was non-compliant.

The linkage between ESOS data and the IDBR employed two identifiers: CRN and organisation name. Due to missing and inconsistently entered data, particularly for Phases 1 and 2, both identifiers were cleaned before matching began. Company names were cleaned at two levels. A light clean removed typographical inconsistency that were very unlikely to generate false matches. The heavier clean also removed generic terms that often appear in company names. This heavier cleaning increases the risk of false matches, particularly between companies in the same group, but this risk was considered tolerable because a match to a different company int the same group would still likely be part of the same ESOS participant.

Table 35: Cleaning steps applied to all company names and registration numbers

Identifier	Light clean	Heavy clean
Organisation name	Make all letters lower case – to circumvent situations where 'LTD' has been spelt 'ltd' (or vice versa). Remove all punctuation – e.g. "ltd." becomes "ltd". Remove leading, trailing and double spaces. Turn instances of "limited" into "ltd".	Cleaning to left plus removal of generic terms: • ltd • holdings • co • global • group • the
Company Registration Number (CRN)	Ensure registration numbers are 8 digits long by padding with leading zeroes. All CRNs must be 8 digits long. (E.g. 123 becomes 00000123) Ensure any letters are capitalised. (e.g. sc000001 becomes SC000001)	N/A

Where an IDBR enterprise contains multiple companies, it has multiple CRNs and a name in a format such as: "Company x including company y", or "company x incl all group members". The matching process therefore tested each CRN individually and split enterprise names into the first company name and any company names after the word "including".

As there was a relatively large amount of missing and/or inconsistently-entered data which could not be addressed via cleaning (primarily concentrated in Phase 1 and 2 data), a variety of matching approaches were taken combining exact and fuzzy matching. These were undertaken in sequential rounds, ordered from most to least robust. The most robust match was an exact match on both CRN and company name after light cleaning. Less robust matches included cases where one or both identifiers were close to matching, identified through 'fuzzy matching', or where one of the identifiers was missing. Once a match was identified in a given round, both the IDBR record[94] and the ESOS participant were removed for subsequent, less robust rounds. The resulting tiers of matches are shown below, with tier 1 representing the most robust match and tier 9 the least robust.

[94] The term 'IDBR record' here is meant as a unique combination of CRN and enterprise name. Where the enterprise comprised multiple CRNs, unique combinations of the CRN and enterprise name that had not been matched in a given round could continue into subsequent rounds of matching. As such, some enterprises matched to multiple ESOS participants, for instance where a corporate group decided to comply with ESOS separately as individual companies.

Table 36: Matching tiers used to link ESOS participants to IDBR enterprises

Tier	CRN	Company Name
1	Exact match	Exact match – lightly cleaned
2	Exact match	Exact match – heavily cleaned
3	Exact match	Fuzzy match – with a Jaro-Winkler distance of no more than 0.2 on lightly cleaned names
4	Fuzzy match, Hamming distance of 2 or less	Exact name – lightly cleaned
5	Exact match	Name not matched (or missing)
6	CRN missing	Exact match – lightly cleaned
7	CRN missing	Exact match – heavily cleaned
8	Fuzzy match, Hamming distance of 2 or less	Fuzzy match – with a Jaro-Winkler distance of no more than 0.15 on lightly cleaned names
9	CRN present, but no match	Exact match – lightly cleaned

As shown in the table below, a large amount (95-98%) of participants across Phases 1 to 3 were able to be matched to the IDBR. A large majority had an exact CRN match and also an exact or fuzzy name match, ranging from 83% in Phase 1 to 91% in Phase 3. Compared with Phase 3, a larger proportion of Phase 1 and 2 participants were matched on name alone (tiers 6, 7 and 9, equating to 2.6-2.7% of participants). Manual reviews suggested these were likely true matches, where the CRN had been inputted incorrectly and which had not been rectified by the cleaning. All nine tiers of matches were therefore included in evaluation analysis.

Table 37: Proportion of participants matched to an IDBR enterprise, by phase and match robustness

Tier	Phase 1	Phase 2	Phase 3
1	46.0%	52.9%	65.0%
2	26.0%	22.2%	18.1%
3	10.7%	9.2%	7.6%
4	0.0%	0.0%	0.0%
5	9.0%	8.1%	5.9%
6	0.5%	0.3%	0.3%
7	0.7%	0.6%	0.3%

Tier	Phase 1	Phase 2	Phase 3
8	0.8%	0.7%	0.0%
9	1.5%	1.7%	0.5%
No match	4.8%	4.3%	2.2%
Total %	100%	100%	100%
Total N[95]	6,717	7,101	7,700

The table below shows, among participants that could be matched the IDBR, the number of unique enterprises appearing in one or more ESOS phase. These results are the basis for sub-group analysis by previous participation status in both the MESOS analysis and the QED analysis using the ND-NEED dataset.

Table 38: Proportion of participants matched to an IDBR enterprise, by phase and match robustness

In which ESOS datasets the enterprise was found	Number of unique enterprises in IDBR
Only Phase 1	1,762
Only Phase 2	1,192
Only Phase 3	2,805
Phases 1 and 2 (but not 3)	1,205
Phases 1 and 3 (but not 2)	349
Phases 2 and 3 (but not 1)	1,312
All three phases	3,027

[95] To note, these population totals were filtered based on whether the participant qualified and was responsible for more than 40MWh of energy. Further filtering and exclusions were applied before the analysis shown in the main body of his report, as outlined in the methodology section of this report.

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