UK Government

RAF057/2324: Evaluation of the Business Energy Advice Service (BEAS) pilot

Impact evaluation – Technical annex

Department for Energy Security and Net Zero (2026)

Authors

The evaluation was conducted by Technopolis Ltd, with support from IFF and David Tobin Consulting (DTEC).

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

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Section 1: Data tables

These data tables present the full data used in the Figures in the main Impact Evaluation report for reference.

Table 1: Percentage of SMEs providing views on the accuracy of estimated energy savings associated with their BEAS recommendations

SME subgroup	A lot higher	A little higher	About the same	A little lower	A lot lower	No savings have been realised
Total sample	10%	12%	42%	12%	10%	14%

Table 2: Full data for Figure 4 (Number of standard/EI audit recommendations by measure type)

Measure type	Standard	Energy Intensive
Solar (25 years)	1367	51
LEDs (20 years)	1154	50
Building Fabric (30 years)	998	17
Energy Mgmt. (15 years)	767	175
Heaters (12.5 years)	539	2
Heat Pumps (15 years)	449	7
Boilers (20 years)	279	8
Refrigeration (17.5 years)	212	11
Cooling (17.5 years)	141	9

Measure type	Standard	Energy Intensive
Miscellaneous EI	0	145
Ventilation (20 years)	119	11
Other - standard	987	0

Table 3: Percentage of recommendations given to businesses of each sector, by the recommendation measure type

SME sector	Boilers	Building Fabric	Cooling	Energy Mgmt.	Heat Pumps	Heaters	LEDs	Misc. EI	Refrigeration	Solar	Ventilation	Other - standard
Accommodation & Food Services	12%	10%	14%	11%	12%	7%	9%	0%	40%	8%	3%	15%
Administrative and support service activities	1%	2%	2%	1%	2%	1%	2%	0%	2%	2%	4%	2%
Agriculture, Forestry and Fishing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Arts, entertainment and recreation	9%	9%	15%	5%	11%	5%	7%	1%	7%	7%	5%	6%
Blank/unknown	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Construction	4%	3%	2%	2%	3%	4%	3%	0%	0%	3%	2%	2%
Education	2%	2%	1%	2%	2%	2%	2%	0%	1%	1%	1%	1%

SME sector	Boilers	Building Fabric	Cooling	Energy Mgmt.	Heat Pumps	Heaters	LEDs	Misc. EI	Refrigeration	Solar	Ventilation	Other - standard
Electricity; gas; steam and air conditioning supply	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Financial & Insurance Activities	1%	2%	1%	2%	1%	1%	1%	0%	1%	1%	0%	1%
Human health and social work activities	11%	7%	4%	6%	7%	8%	5%	0%	3%	8%	1%	5%
Information and communication	2%	1%	0%	1%	2%	1%	2%	0%	0%	2%	3%	1%
Manufacturing	23%	19%	17%	40%	20%	36%	28%	94%	7%	27%	52%	35%
Other	2%	2%	1%	0%	2%	1%	2%	0%	1%	2%	1%	1%
Other service activities	16%	20%	19%	11%	22%	12%	16%	0%	15%	15%	13%	12%
Professional, scientific and technical activities	3%	5%	2%	4%	3%	4%	5%	0%	1%	4%	2%	3%
Public administration and defence; compulsory social security	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%
Real estate activities	4%	4%	5%	1%	4%	3%	3%	0%	0%	4%	1%	2%

SME sector	Boilers	Building Fabric	Cooling	Energy Mgmt.	Heat Pumps	Heaters	LEDs	Misc. EI	Refrigeration	Solar	Ventilation	Other - standard
Transportation and storage	2%	2%	1%	1%	2%	2%	2%	0%	0%	2%	1%	1%
Water supply, sewerage, waste management and remediation activities	0%	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	0%
Wholesale and retail trade; repair of motor vehicles and motorcycles	8%	10%	12%	12%	6%	12%	12%	0%	19%	11%	10%	11%

Table 4: Full data for Figure 5 (Total potential lifetime energy saving from all BEAS recommendations, by measure type (GWh))

Measure type	Total potential lifetime energy saving from all measures (GWh)
Solar (n=1431)	1016
Energy Mgmt. (n=878)	452
LEDs (n=1229)	289
Building Fabric (n=1025)	275
Miscellaneous EI (n=150)	197
Boilers (n=299)	170
Heat Pumps (n=458)	166

Measure type	Total potential lifetime energy saving from all measures (GWh)
Heaters (n=536)	149
Ventilation (n=128)	60
Refrigeration (n=222)	41
Cooling (n=151)	32
Other - standard (n=970)	368

Table 5: Full data for Figure 6 (Total potential lifetime carbon saving from all BEAS recommendations, by measure type (tCO2e))

Measure type	Total potential lifetime carbon saving from all measures (tCO2e)
Solar (n=1431)	51,552
Building Fabric (n=1025)	43,726
Energy Mgmt. (n=878)	43,268
Boilers (n=299)	28,641
Heat Pumps (n=458)	28,611
Heaters (n=536)	25,667
Miscellaneous EI (n=150)	23,551
LEDs (n=1229)	19,403

Measure type	Total potential lifetime carbon saving from all measures (tCO2e)
Ventilation (n=128)	10,762
Refrigeration (n=222)	4449
Cooling (n=151)	2717
Other - standard (n=970)	52,035

Table 6: Full data for Figure 7 (Percentage of SMEs who agreed that BEAS recommended measures were affordable)

SME subgroup	Strongly agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Strongly disagree	Don't know
a) All respondents	23%	19%	26%	14%	14%	4%
b) 0–9 employees	18%	20%	22%	17%	19%	5%
c) Grant recipients	36%	26%	27%	8%	2%	0%

Table 7: Percentage of SMEs with each implementation status

SME subgroup	This would have been fully implemented	This would have been partially implemented (i.e. on a smaller scale)	This would not have been implemented at all	Don't know
Total sample (n=525)	188	143	179	15
LEDs (n=132)	53	49	28	2
Solar (n=82)	22	10	46	4

Table 8: Full data for Figure 8 (Percentage of SMEs with each implementation status)

	Implemented all recommendations	Implemented some, but not all recommendations	Did not implement any, but has definite plans for some	Did not implement any or have definite plans, but some still under consideration	Implemented no recs & no plans/under consideration
Survey total (n=436)	12%	42%	7%	24%	15%
Businesses with 10–49 employees (n=185)	15%	49%	5%	21%	11%
Energy Intensive audit (n=20)	4%	73%	16%	0%	8%

Table 9: Full data for Figure 9 (Percentage of SMEs citing each reason for installing measures (multiple reasons could be selected by each SME))

Reason for installing measures	Percentage of SMEs
Because of the potential for energy bill savings	87%
Because of the potential for carbon savings	67%
Because there was minimum disruption during installation	63%
To meet internal sustainability or Corporate Social Responsibility goals	53%
To improve the comfort levels for staff / customers	53%
Because the measures had a short payback period	51%
Because they were low cost	47%
To improve the business's public image or reputation	43%

Reason for installing measures	Percentage of SMEs
To increase productivity	35%
Out of necessity due to equipment failure or end of life	28%
To comply with regulations or industry standards	25%
Due to encouragement or pressure from stakeholders, clients, or investors	13%
Other	3%
None of these	1%

Table 10: Full data for Figure 10 (Percentage of BEAS recommendations with each implementation status, by measure type)

Measure type	Fully implemented	Partially implemented	Definite plans to take in this financial year (i.e. have budget approval)	Under consideration to implement in the future	No plans to implement	Was not included in energy assessment report / Don't know
Miscellaneous EI (n=34)	38%	15%	3%	18%	26%	0%
LEDs (n=235)	35%	16%	6%	27%	13%	3%
Energy Mgmt. (n=194)	24%	16%	6%	30%	17%	8%
Refrigeration (n=44)	23%	5%	7%	30%	32%	5%
Heaters (n=100)	16%	10%	6%	35%	28%	5%
Cooling (n=27)	15%	11%	7%	30%	26%	11%

Measure type	Fully implemented	Partially implemented	Definite plans to take in this financial year (i.e. have budget approval)	Under consideration to implement in the future	No plans to implement	Was not included in energy assessment report / Don't know
Boilers (n=61)	18%	5%	3%	39%	31%	3%
Ventilation (n=28)	18%	4%	7%	7%	50%	14%
Building Fabric (n=216)	14%	6%	6%	38%	31%	3%
Solar (n=278)	17%	3%	9%	41%	29%	1%
Heat Pumps (n=83)	6%	0%	4%	39%	47%	5%
Unclassified (n=194)	34%	4%	4%	27%	26%	6%

Table 11: Full data for Figure 11 (Percentage of recommendations with each implementation status, by estimated payback period)

Payback period	Fully implemented	Partially implemented	Definite plans to take in this financial year (i.e. have budget approval)	Under consideration to implement in the future	No plans to implement	Was not included in energy assessment report / Don't know
Less than two years payback (n=312)	26%	14%	6%	23%	23%	9%
2–4.99 years payback (n=417)	24%	7%	5%	40%	20%	3%
5–9.99 years payback (n=417)	19%	7%	8%	33%	31%	3%
10+years payback (n=268)	19%	6%	4%	35%	32%	3%

Table 12: Full data for Figure 12 (Percentage of SMEs selecting each reason for not planning to implement BEAS recommendations)

Reason SMEs were not planning to implement BEAS recommendations	a) Total	b) 0–9 employees
Financial barriers	70%	79%
Have other business priorities	57%	49%
Other economic constraints (High interest rates / inflation rates)	38%	34%
Complexity of certain measures	33%	27%
Disruption to business operations	29%	35%
Lack of information about how to implement the measure(s)	13%	20%
Trade-offs with other environmental and/or safety regulations	12%	12%
Lack of information about the measure(s) and its benefits	11%	12%
Business premises are leased	10%	10%
Not suitable for type of business premises	6%	7%
No / limited benefits to changes	5%	5%
Issues with length of payback time	3%	2%
Other	4%	1%
Don't know	1%	1%

Table 13: Full data for Figure 13 (Percentage of recommendations with each expected implementation status in the absence of BEAS, divided by the grant status of the businesses)

Grant status of SMEs	This would have been fully implemented	This would have been partially implemented (i.e. on a smaller scale)	This would not have been implemented at all	Don't know
Received BEAS grant (n=96)	24	34	35	3
Did not receive BEAS grant (n=429)	163	110	144	12

Table 14: Full data for Figure 14 (Percentage of recommendations with each expected implementation status in the absence of BEAS, by measure type)

SME subgroup	This would have been fully implemented	This would have been partially implemented (i.e. on a smaller scale)	This would not have been implemented at all	Don't know
Total sample (n=525)	188	143	179	15
LEDs (n=132)	53	49	28	2
Solar (n=82)	22	10	46	4

Table 15: Full data for Figure 15 (Percentage of SMEs identifying other factors influencing energy usage since their BEAS recommended measures were installed)

Other factors influencing energy usage since BEAS recommended measures were installed	Percentage of SMEs
Change in energy prices	36%
Other change in business practices	18%

Other factors influencing energy usage since BEAS recommended measures were installed	Percentage of SMEs
Poor quality of energy efficiency measures	12%
There has been an increase in energy usage in another part of your business operations	10%
Need to meet regulatory requirements	6%
Other reason	3%
None of these	14%
Don't know	2%

Table 16: Full data for Figure 16 (Percentage of SMEs identifying different factors influencing energy costs since their BEAS recommended measures were installed)

Other factors influencing energy costs since BEAS recommended measures were installed	Percentage of SMEs
Change in energy prices	55%
Other change in business practices	36%
Change in energy contract/ provider	32%
Change in fuel type used	14%
Other reason	1%
None of these	25%
Don't know	1%

Table 17: Full data for Figure 17 (Estimated lifetime energy savings from BEAS attributed implemented measures, by measure type (GWh))

Measure type	Estimated lifetime energy savings from BEAS attributed implemented measures (GWh)
Solar	262.2
Building Fabric	56.9
LEDs	46.9
Energy Mgmt.	46.6
Boilers	31.8
Heaters	28.3
Heat Pumps	25.9
Miscellaneous EI	25.4
Refrigeration	7.9
Ventilation	7.8
Cooling	5.8
Other - standard	10.7

Table 18: Full data for Figure 18 (Estimated lifetime carbon savings from BEAS attributed implemented measures, by measure type (tCO2e))

Measure type	Estimated lifetime carbon savings from BEAS attributed implemented measures (tCO2e)
Solar	14,930
Building Fabric	9,381
Energy Mgmt.	5,420
Boilers	5,385
Heaters	5,068
LEDs	4,802
Heat Pumps	4,472
Miscellaneous EI	3,419
Ventilation	1,386
Refrigeration	947
Cooling	632
Other - standard	1,456

Table 19: Full data for Figure 19 (Estimated lifetime cost savings from BEAS attributed implemented measures, by measure type (£ million))

Measure type	Estimated lifetime cost savings from BEAS attributed implemented measures (£ million)
Solar	8.4
LEDs	1.5
Energy Mgmt.	1.4
Building Fabric	0.7
Miscellaneous EI	0.6
Boilers	0.4
Heaters	0.4
Heat Pumps	0.4
Refrigeration	0.2
Cooling	0.2
Ventilation	0.1
Other - standard	0.3

Table 20: Full data for Figure 20 (Percentage of SMEs who experienced each wider business benefit from fully or partially implemented BEAS measures)

Wider business benefit from fully or partially implemented BEAS measures	Percentage of SMEs
Increased profit margin	34%
Increased investment	27%
Increased production	20%
Improved working conditions	4%
Improved reputation of business	2%
Improved morale / wellbeing of staff	1%
Other	3%

Section 2: Evaluation questions

No.	Evaluation Question (EQ)	Section(s) of report in which the EQ is addressed
1)	**Analysis of energy demand reduction and carbon reduction potential in SMEs (based on the energy assessment reports produced, and considering the associated costs)**	**Type of technologies recommended by BEAS, Energy and carbon reduction potential, Costs and affordability of BEAS recommendations**
1.1.1	What types of technologies were recommended?	Type of technologies recommended by BEAS
1.1.2	What potential to SMEs have for achieving energy demand and carbon reduction?	Energy and carbon reduction potential
1.1.3	How affordable are energy demand and carbon reduction measures for SMEs?	Costs and affordability of BEAS recommendations
1.1.4	What was the variation in energy and carbon reduction measures recommended and how does this vary for different business types (sector, size, energy intensive vs normal audits etc)?	Type of technologies recommended by BEAS
1.1.5	What was the variation in the costs to implement and payback periods of different energy assessment recommendations?	Costs and affordability of BEAS recommendations
1.1.6	What was the variation in the energy saving potential of different energy assessment recommendations?	Energy and carbon reduction potential
1.2	**Estimating (quantitatively) the impact of the Pilot BEAS in reducing SME's energy consumption and therefore carbon**	**BEAS background and objectives, Business level implementation of BEAS recommendations, Estimated energy, carbon and cost savings**
1.2.1	How many audit reports and grants were delivered?	BEAS background and objectives
1.2.2	To what extent have SME participants engaged with their reports?	Business level implementation of BEAS recommendations
1.2.3	To what extent were SMEs induced by their report into taking action or planning to act based on them?	Business level implementation of BEAS recommendations

No.	Evaluation Question (EQ)	Section(s) of report in which the EQ is addressed
1.2.4	What energy savings and carbon savings are expected to arise from actions that SMEs (a) have taken, and (b) intend to take?	Estimated energy, carbon and cost savings
1.2.5	How reliable were the estimated impacts produced by assessors and therefore the estimated impacts calculated at this stage?	Method for quantifying estimated energy savings
1.2.6	(If data is available) how effective were grants in delivering energy savings or carbon savings?	Estimated energy, carbon and cost savings
2)	**Understanding the energy demand and carbon reduction behaviour of SMEs, the barriers to improving their energy and carbon reduction and the degree to which involvement with the Pilot BEAS has influenced or overcome these**	**Implementation of BEAS recommendations by measure type, Reasons why BEAS recommendations were not implemented, The role of BEAS in installation of measures**
2.1)	Which types of measures recommended by energy assessments were more commonly implemented by businesses? Why?	Implementation of BEAS recommendations by measure type
2.2)	Why were some recommendations not implemented?	Reasons why BEAS recommendations were not implemented
2.3)	To what extent did providing information in energy assessment reports (and where applicable, supplementary road mapping) incentivised SMEs to make changes to reduce their energy consumption?	The role of BEAS in installation of measures
2.4)	To what extent did providing finance through subsidised grant funding incentivise SMEs to make changes to reduce their energy consumption?	The role of BEAS in installation of measures
2.5)	Was effectiveness contingent on delivering both interventions together (audit and grant)?	Business level implementation of BEAS recommendations
3)	**Wider questions (secondary benefits)**	**Wider business outcomes, The role of BEAS in delivering energy cost savings, Employment**
3.1)	Have any unanticipated secondary benefits been realised and if so to what extent?	Wider business outcomes

No.	Evaluation Question (EQ)	Section(s) of report in which the EQ is addressed
3.2)	To what extent have changes implemented as part of the BEAS pilot contributed to energy cost reductions among participating businesses? What influenced this?	The role of BEAS in delivering energy cost savings
3.3)	To what extent have changes implemented as part of the BEAS pilot contributed to productivity change among participating businesses? What influenced this?	Wider business outcomes
3.4)	To what extent have changes implemented as part of the BEAS pilot contributed to change in employment among participating businesses? What influenced this? To what extent have changes implemented as part of the BEAS pilot contributed to change in on-site production among participating businesses? What influenced this?	Employment
4)	**Establishing evidence on the degree of causality (through Theory of Change verification)**	**Assessing progression in the Theory of Change**
4.1)	To what extent were interventions delivered and did mechanisms unfold as anticipated by the Theory of Change?	Assessing progression in the Theory of Change
4.2)	To what extent have quantitative benefits realised by the Pilot BEAS been additional (i.e. in excess of what would have occurred without Pilot BEAS)?	Estimated energy, carbon and cost savings
4.3)	Is there evidence to suggest the Pilot BEAS caused, or contributed towards, the benefits identified as part of this research? Is there contrary evidence? On balance how strong is the overall package of evidence?	Assessing progression in the Theory of Change
4.4)	Therefore, to what extent has the Pilot BEAS delivered, or could be expected to deliver, value for money? (consider £/tCO2e and Cost-Benefit Ratio)	BEAS Value for Money

Section 3: Methodology

Introduction

The evaluation was framed around a set of evaluation questions (Section 2) aimed at understanding the scheme's outputs, outcomes and impacts and the scheme Theory of Change (ToC). The Theory of Change describes the processes by which the scheme's inputs and activities translate through to overcoming barriers and achieving their intended outputs, outcomes and impacts.

Two evaluation frameworks were developed for the study. The first mapped the evaluation questions with the most relevant evidence sources and data collection tools. This guided the design of the data collection undertaken during the evaluation. A mixed methods approach was used to collect and triangulate evidence. Full details of data collection are given below.

The second evaluation framework was a Contribution Analysis Process Tracing (CAPT) framework designed to assess progress against the scheme's ToC. This is available in the separate Excel document and is explained further below. Later parts of the ToC have been assessed within this framework for the impact evaluation. The earlier elements of the ToC are assessed in the separate BEAS process evaluation report.

In addition, a quantitative model was developed to estimate and monetise total BEAS Phase 1 savings (energy, cost and carbon) utilising Monitoring Information (MI) and survey data. The method for this is detailed in full in the main impact evaluation report.

Contribution Analysis Process Tracing framework

Contribution Analysis (CA) has been used to address the methodological challenge of understanding to what extent outcomes and impacts can be attributed to the BEAS scheme. CA involves describing and testing the linkages in causal pathways between scheme inputs and activities and their intended outcomes and impacts as shown in the Theory of Change (ToC). A key feature is that CA also investigates the role of external influencing factors (e.g. other support available to SMEs) in driving change in outcomes. The aim is to provide an evidence-based account of what role the scheme, or certain features of it, have played alongside external factors in contributing to outcomes. As well as being used to determine contribution to intended benefits, the approach also unpicks the role of contextual factors to assess how and why the BEAS scheme has made a difference, or not.

For key barriers, outputs, outcomes and impacts in the scheme's ToC, a contribution claim (hypotheses on scheme achievements) was developed. Alongside this a set of alternative explanations was developed on other external factors that could contribute to the observed outcomes. A set of related PT tests were then developed for each contribution claim and alternative hypothesis. There are four kinds of PT test applied within this analysis:

- 'straw in the wind', which lends support for an explanation without definitively ruling it in or out
- 'hoop', is necessary for a causal claim to be true, failing a hoop test may rule out a particular causal chain entirely. Passing a hoop test, does not necessarily lend further support to causal claim
- 'smoking gun', is a test that is a sufficient to satisfy a causal claim, however failing it does not necessarily rule out this explanation
- 'double decisive' test, is a condition that if passed definitely proves a claim, and weakens alternative explanations/competing causal claims

PT tests are assessed as 'passed', 'failed', or 'inconclusive'. To translate these tests into judgements of the overall strength of evidence in support of the contribution claim, a set of criteria was followed, as outlined in Table 20 below. This was then visualised with boxes and arrows within the ToC diagram highlighted with a solid green/amber/red outline in the main report.

Table 20: Judgement for assessing contribution

Strength of evidence in support of contribution claim	Criteria for passing tests
Strong support for the hypothesis (green rating on the ToC)	All or vast majority of PT tests are passed, and no Hoop tests Fail **OR** All Smoking Gun and Double Decisive tests are passed in support of Programme Hypotheses (PH) **AND** Smoking Gun and Double Decisive tests fail for the Alternative Hypotheses (AH). Some Straw-in-the-wind tests in support of PH may fail and pass in favour of AH.

Strength of evidence in support of contribution claim	Criteria for passing tests
Moderate support for the hypothesis (amber rating on the ToC)	No Hoop tests fail. Evidence in support of some PH Smoking Gun or Double decisive tests may not have been found or are inconclusive. Most Straw-in-Wind tests pass. Evidence for Straw-in-wind test is Triangulated with other sources (for example, interviews with different group of stakeholders support the same PH). **AND** Following criteria above, more PH tests pass than AH tests. Evidence is stronger in favour of the hypotheses
Mixed or weak support for the hypothesis (amber rating on the ToC)	Some conflicting evidence in favour of PH e.g. some Smoking Gun evidence found but Hoop tests were failed (suggesting ToC itself or the types of tests used need revised). **OR** On balance, most evidence tests are in favour of PH, however, these are based on Straw-in-the-Wind tests
No support for the hypothesis (red rating on the ToC)	Fundamental tests in favour of PH are failed (e.g. Hoop tests). No Smoking Gun or double decisive tests are passed. **OR** Evidence in favour of the AH is found that follows criteria for 'Strong support', but not for the PH.

The accompanying Excel framework consists of the following sections, from left to right in the CA PT tab:

- 'Theory of Change Elements' listing the individual boxes/elements within the Theory of Change diagram.
- 'Causal Pathways' explain how individual elements of the ToC cause or lead to subsequent elements of the ToC, for example, how a particular activity enables a specific barrier to be overcome. This also includes Contribution Claims and Alternative Explanations where these were set up for testing specific causal pathways in this evaluation.
- 'Indicators' showing the metrics and evidence used to assess whether a ToC element has been implemented in practice.
- 'Process Tracing Evidence Tests' created as part of the evaluation scoping to test if the causal pathways of the ToC occurred in practice.
- 'Results of Process Tracing Evidence Tests' showing the findings of these through assessment of the evidence collected through the evaluation.

Primary data collection

Primary data collection took place between August and October 2025 and included:

- **SME survey:** All SMEs who received BEAS support (an audit and/or grant) during Phase 1 were invited to participate in a survey
- **Qualitative interviews:** Six interviews were conducted with energy auditors, alongside 25 follow-up interviews with surveyed SMEs

Details of the approach taken for each are described in turn.

Primary data collection

SME survey

Sample source and sampling approach

SMEs who received an energy audit between October 2023 and February 2025[1] (BEAS Phase 1) were deemed eligible for the quantitative survey. The initial BEAS MI database contained the contact details of these SMEs (including main contact name, email addresses, telephone numbers) plus the details of each recommended measure, grant information and associated energy and cost savings data. The MI database was supplied by DESNZ to Technopolis, who carried out initial cleaning of the sample data (e.g. flagging SMEs who received multiple audits for different sites and SMEs who had incomplete recommendation and/or savings data). It was then shared with IFF Research for additional processing.

The initial sample file contained 2,133 businesses: 2,080 businesses who received an energy audit at one site, and 53 businesses who received energy audits across more than one site. For those businesses that Technopolis had identified as having received audits at multiple sites, it was decided that they would be initially invited to take part in the survey to answer about the site with the greatest energy-saving potential, and once they had completed that, they would be given the option to respond about other sites if they wished.

During sample processing, IFF identified 106 records who had duplicate contact details but distinct company names. As with the multi-site businesses, it was decided that the named contact would be asked to initially complete the survey based on the business with the greatest energy saving potential, then given the option to complete the survey again about other sites for which they were the named contact. Two records were also found to have no recommendation data or energy usage and cost savings data, so were subsequently removed from the database. This left the final total BEAS population eligible for the survey at 2,131.

[1] BEAS Phase 1 continued until the end of March 2025. However, the end of February 2025 was used as the cut off for the survey sample. This was to allow at least six months' time to have passed between the date of the BEAS audit and the survey so that SMEs had had a reasonable period of time in which to implement BEAS audit recommendations.

Minimum target quotas were proposed based on the pilot BEAS audit population covering SME sector and size, delivery partner, grant status and audit type (standard/energy intensive).

Survey questionnaire design

The questionnaire design process was informed by the quantitative impact methodology and evaluation question and CAPT frameworks to ensure the questionnaire aligned with the evaluation objectives. A 'unimode' approach was used for the questionnaire design to ensure that questions were suitable for both online and aural administration. Timing checks were also carried out to ensure that the questionnaire met the proposed length of 15 minutes. The majority of questions were business focussed, but several were measure focussed. These were generally asked about all measures that were recommended to businesses in the energy audits, or all measures businesses reported having fully or partially implemented where relevant.[2]

The questionnaire explored the following areas:

- **Implementation status of BEAS recommended measures** – including whether implemented measures were implemented across other sites.
- **Overall experience with the Business Energy Advice Service** – including ease of understanding and relevancy of energy assessment reports, awareness of BEAS grants, experience of the grant application process, previous barriers to implementing energy efficiency measures and the impact of BEAS on these, other sources of information and funding used to inform energy efficiency improvements
- **Benefits of participating in the Business Energy Advice Service** – including the impact of the energy assessment report, reasons for choosing to implement energy efficiency measures, measure implementation status without participation in the BEAS, accuracy of estimated energy usage and cost savings from the energy assessment report, actual change in energy usage and cost following implementation of BEAS-recommended measures

Survey fieldwork design

Prior to the start of fieldwork, an advance notice email was drafted to ensure that the SMEs were aware of the survey and upcoming attempts to contact them. The advance notice was distributed to SMEs by their BEAS delivery partners.

Before fieldwork started, telephone interviewers were provided with an in-depth briefing and briefing notes, providing them with background and additional context about the research.

[2] For one question, D3, this was asked as follows to limit the time spent on this: Please tell us why you chose to install specific measures. We'll ask you about two measures maximum. So, if you've installed more than two measures, we'll pick two at random.

A mixed mode approach (telephone and online) was used for the quantitative fieldwork, to better suit the preferences of the SMEs. Online fieldwork began on 12 September 2025 and CATI fieldwork began on 17 September 2025. Fieldwork closed on 17 October 2025 across both modes.

The survey sample was split into three batches. The first batch of 1,934 records consisted of businesses who had obtained individual energy audits or were the sites with the greatest energy saving potential from businesses who had sites with several audits or duplicate named contacts. These records were all initially invited to take part in the survey via email, and were followed up via telephone by the interviewing team several days later. The second batch were the remaining multi-site audit records, equating to 91 records, and the third batch of records were those who had duplicate named contacts, equating to 106 records. Three reminders were distributed across the fieldwork period for those yet to take part. In order to try to boost response from key sub-groups, multi-site businesses, businesses with the greatest energy saving potential (more than 0.5% of total audit energy savings) and those businesses who had an energy intensive (EI) audit were also sent targeted reminders, with email text revised to reflect their status. The average length of time taken to complete the questionnaire across both survey modes was 20 minutes.

Profile of achieved survey sample

In total, the survey achieved 436 responses, representing a 20% response rate, and slightly lower than the target of 570. The principal reason for a lower response rate was the lack of engagement among SMEs with the online survey. 47 online responses in total were received. Budget was therefore re-allocated to allow more telephone interviews to be completed than anticipated, to maximise the achieved sample size. 389 telephone interviews were completed in total.

Table 21 shows the achieved survey sample by sector, delivery partner, business size, audit type, grant status and business type.

Table 21: BEAS full population profile vs. Achieved survey completes profile

Sector	BEAS full population (including EI audits)	Survey completes
Manufacturing	28%	29%
Wholesale & retail trade	12%	11%
Accommodation & food services	10%	7%
Other	50%	53%

Delivery Partner	BEAS full population (including EI audits)	Survey completes
Aston (inc. MTC)	60%	56%
Worcs & the Marches	19%	19%
Stoke & Staffordshire	13%	14%
Warwickshire	8%	11%

Audit type	BEAS full population (including EI audits)	Survey completes
Standard	95%	95%
Energy intensive (EI)	5%	5%

Business size	BEAS full population (including EI audits)	Survey completes
0-1	5%	7%
2-9	37%	37%
10-49	42%	43%
50-99	10%	10%
100-249	6%	3%
Unknown	1%	0%

Grant status	BEAS full population (including EI audits)	Survey completes
Received grant (from sample)	5%	10%
Received grant[3] (C3=2 in survey)	n/a	13%
Did not receive grant	n/a	77%

[3] These survey respondents self-reported receiving a BEAS grant, despite not being indicated on the database as having done so. This may be because they received a BEAS grant after the end of Phase 1 or they may have misidentified another grant they received as a BEAS grant.

Number of sites	BEAS full population (including EI audits)	Survey completes
Multi-site business	4%	2%
Single site business	96%	98%

Survey data processing and weighting

Survey data was processed using IBM SPSS, from which a raw Excel data file was created, which showed individual survey responses, and Excel data tables showing weighted aggregated responses broken down by key sub-groups of interest.

The survey data was weighted using Random Iterative Method (RIM) weighting by sector, delivery partner, audit type and business size. This ensured that the final survey data was representative of the original pilot BEAS population in relation to these characteristics. However, it is still possible there was some other unknown bias to the profile of SMEs who chose to participate (for example, in the extent to which positive outcomes are attributed to BEAS rather than other scheme or sources of funding) which will influence the findings presented in the report.

A coding specification was created to detail how open-ended questions or answer options should be coded. Coding was added once all other data edits had been made. Frequencies of coded variables were then checked against the final agreed codeframe.

Survey limitations

Some limitations were encountered:

- An error in the question routing for Question D1 ([Below are/I will read out] some statements about your energy assessment report and the recommendations within it. Please tell us the extent to which you agree or disagree with these statements.) meant that instead of being asked to all respondents, this question was only asked to those who had fully or partially implemented at least one of their recommended measures. Following the closure of fieldwork, the study team carried out a recontact exercise to obtain the answers from those who were originally missed, resulting in 78% of the final sample submitting an answer to D1.
- The desired target of 570 total interviews was not met due to a lack of response to the online survey link that was shared with SMEs. At 95 per cent confidence level, a base of 570 carries a maximum margin of error of ±3.5%, while the achieved base of 436 carries a maximum margin of error of ±4.2% (a difference of ±0.7 percentage points).

- Relatedly, the minimum targets were not achieved for the following subgroups of interest: SMEs who had total estimated energy savings of 0.5% or more of the total standard audit savings, SMEs who had energy intensive audits and multi-site businesses. This was in part due to low incidence within the BEAS population, plus reluctance of multi-site business respondents agreeing to take part in the survey more than once.

SME qualitative interviews

Sampling approach

Businesses that participated in the quantitative survey and gave consent to being recontacted for more in-depth research were included in the sample for qualitative fieldwork (161 businesses, 37%). From this pool, businesses were recruited to ensure a spread across delivery partner, sector, business size, energy audit type and whether they had implemented any measures following their energy audit.

Topic guide design

The topic guide design process was informed by the evaluation question and CAPT frameworks to ensure the questionnaire aligned with the evaluation objectives. The topic guide included some topics not covered in the SME survey, but was also used to explore some survey topics in more depth.

The topic guide explored the following areas:

- Experiences and views of BEAS scheme processes including marketing, audit registration, audit delivery, audit reports, and grant applications
- How BEAS and other support/motivations helped (or did not) overcome any barriers to installation of energy efficiency measures
- Subsequent benefits including savings in energy and energy costs arising from the installation of energy efficiency measures and how any other factors also influenced these

Fieldwork approach and achieved sample

Qualitative follow-up research encompassed 25 qualitative semi-structured interviews with a range of businesses, which took place throughout October 2025. These interviews were conducted remotely, either by telephone or video call (via Microsoft Teams). Each interview took between 30 minutes and 1 hour to complete. The profile of completed qualitative interviews is detailed in Table 22 below.

Table 22: Profile of qualitative interviews

Delivery partner	Number of completed interviews
Stoke and Staffordshire	2
Aston Consortium	11
MTC	5
Warwickshire	1
Worcestershire and the Marches	6

Sector	Number of completed interviews
Manufacturing	11
Wholesale & Retail Trade	3
Accommodation & Food Services	2
Other	9

Business size	Number of completed interviews
Sole trader	1
1-9 employees	7
10-49 employees	10
50-99 employees	3
100-249 employees	4

Audit type	Number of completed interviews
Energy Intensive (EI) audit	7
Standard audit	18

Business type	Number of completed interviews
Multi-site business	0
Single site business	25

Grant status	Number of completed interviews
Received grant (sample or C3=2)	6
Did not receive grant	19

Measure implementation status	Number of completed interviews
Have not implemented any measures	8
Implemented at least one measure	17

The minimum targets for some key subgroups of interest were not achieved, including SMEs who had energy intensive audits, multi-site businesses and businesses that received a grant. This was in part due to low incidence within the BEAS population, plus a small population of the relevant subgroups who chose to participate in the qualitative research. We also faced a number of cancelled interviews from businesses who no longer wanted to participate in the qualitative research.

Analysis of qualitative data

The data from each interview was detailed in an Excel analysis framework. The analysis framework was structured around the topic guide content, with each row corresponding to an interview participant or group. Key survey and sample information relating to the interviewed SMEs was also appended to the framework to aid analysis including region, sector, business size, delivery partner, audit type, measures implemented, grant status and business type. Analysis was first undertaken for four sub-samples of SME: those who had standard audits who did and did not receive a grant; and those who had energy intensive audits who did and did not receive a grant. Any differences by other key characteristics, for example, sector were also reviewed. Data for each topic was analysed thematically and findings summarised.

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