

**Department of Energy and
Climate Change:
Unconstrained sector
research**

June 2010



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1 Executive summary

1.1 Introduction

- AEA Technology Plc (AEA) have been commissioned by the Department for Energy and Climate Change (DECC) to carry out an examination on the potential contribution of businesses in the 'unconstrained sector' to the UK's climate change mitigation targets.
- AEA subcontracted Databuild to conduct quantitative research focused upon:
 - a. Quantitatively ranking the severity and extent of the barriers already recognised
 - b. Exploring the measures that sites feel may counter different barriers
- 400 interviews were conducted with private sector sites in England that lie within the 'unconstrained' sector. The sample was structured on the basis of size, with a random split in sector and property tenure
- For smaller sites, the key decision maker (i.e. owner / managing director) was interviewed. For larger sites, the person with overall responsibility for energy efficiency on site (usually either a director or specialist manager) was interviewed
- Data was weighted on the basis of England site numbers.

1.2 Key findings

1.2.1 Unconstrained sector profile

- Although almost half of all SMEs are based in domestic premises, the interviews in this research were largely conducted with those operating from commercial premises. Those with domestic premises are covered by CERT and were therefore only interviewed if they operated vehicles as part of their business and were only asked about fuel efficiency activity.
- 60% of commercial sites are rented from commercial landlords; almost two fifths are owned by the business or the business owners. Single employee sites were as likely to be owned by the business as sites with between 2 and 49 employees.
- 86% of commercial sites pay both electricity and / or gas direct to the supplier. On less than 1% of owned sites, the business does not pay for the bills. In contrast, bills are not paid by the business on approximately one fifth of rented sites.
- 72% of sites operate vehicles. The business pays for the fuel for these vehicles in 96% of cases.

- Single employee sites were the most likely to not have investigated measures they could take. However, they were also the most likely to feel that everything possible had been done.
- Large sites were those most likely to accept that they had taken action but could do more. The proportion of sites stating this reduces as the size bands reduce. This is likely to be, at least partly, due to greater knowledge within larger sites as to the range of measures they could undertake.
- 20% of sites have accessed external advice on building energy efficiency or fuel efficiency. Large sites and businesses were significantly more likely to have sought and received advice. 68% of sites with more than 50 employees had sought advice, compared to 37% of sites with 10-49 employees and 14% of sites with less than 10 employees.
- Although a large proportion of sites have accessed support in the past, around one third were not aware of sources of advice without prompting. In addition, satisfaction with advice varied, and many that had accessed advice said that this was through ad hoc internet searches.
- Over half a million sites (mostly single employee sites) have not investigated energy / fuel efficiency, either because they see no value in doing so or believe they are doing everything practical.

1.2.2 Action and motivations

- 80% of sites had taken or are planning lighting measures, 67% heating, 55% insulation and 89% fuel efficiency activity. Although it seems very unlikely that over half of sites have taken insulation action, responses regarding action taken indicate that many sites consider double glazing and basic draught proofing as being insulation measures.
- Manufacturing sites and large sites (perhaps recognising the extent of opportunities for action that are open to them) were those least likely to state that everything possible was being done in all areas. 27% of single employee sites felt that no further action could be taken compared to 13-14% of sites in all the other size bands.
- Across all business sectors and sizes, cost savings are the principal motivation to action and a key factor in the decisions of sites to take action. Reducing environmental impact is also important to some sites, whilst for insulation activity comfort is also a powerful motivator to action.

1.2.3 Barriers

- A significant proportion of respondents said that they did not face any barriers to taking energy efficiency action. This seems unlikely unless they have taken every

possible action, which also seems unlikely. In these cases, 'there is nothing more I can do', really seems to mean 'there is nothing more I can do that is sensible / cost effective'. Large sites were consistently less likely to say this than small sites, across all measure types.

- Lack of money was the most commonly selected barrier and principal barrier for all measures. However, overall, only half of those who selected it as a barrier went on to say it was the main one.

1.3 Key recommendations

Claimed motivations and barriers point to the importance of providing compelling data to show which measures will help sites to save money, how much, and how. Although a small proportion of sites may be taking action for non-financial reasons, the clearest message to most sites needs to be the savings available.

The barriers selected by sites focus upon removal of financial risk and hassle from the process of taking energy efficiency action. This means providing, advice on what can be done, reassurance on feasibility, and finance packages to help them to identify, plan, implement and fund action.

To address the needs of sites and barriers to action, the following should be explored:

- Funding packages (including PAYS, ESCOs and tax incentives)
- Advice on measure options and financial feasibility
- Accreditations and supply chain agenda setting
- Landlord incentivisation

Further qualitative research is recommended to test these ideas further.

2 Introduction

2.1 Background and objectives

AEA Technology Plc (AEA) have been commissioned by the Department for Energy and Climate Change (DECC) to carry out an examination on the potential contribution of organisations in the 'unconstrained sector' to the UK's climate change mitigation targets.

Organisations within the 'unconstrained' sector include both private (usually SME) and small public sector organisations falling outside of existing policy tools. Early estimates suggest that the sector is responsible for emissions of between 20-40 MtCO₂. Therefore, abatement of emissions from the sector can play an important role in helping the UK meet its climate change objectives.

This project aims to:

- assess the energy use and carbon dioxide (CO₂) emissions from organisations not covered by the main carbon abatement regulations - Carbon Reduction Commitment Energy Efficiency Scheme (CRC-EES), EU Emissions Trading Scheme (EU ETS) and Climate Change Agreements (CCAs) and CERT
- the potential carbon savings that can be delivered from cost-effective mitigation measures.

This will be achieved through a series of work packages, covering the following:

1. **Work Package 1:** Updated and validated projections of the energy use and carbon emissions from the unconstrained sector by 22/02/2010
2. **Work Package 2:** Development of a MACC model to assess the most cost-effective carbon saving measures, by 08/03/2010
3. **Work Package 3:** Improved understanding of the effectiveness of measures to overcome barriers to the uptake of energy efficiency measures within SMEs, by 15/03/2010
4. **Work Package 4:** Assessing carbon emissions reduction potential from small emitters' off-site transport, by 15/03/2010.

This report provides data relating to Work Package 3, which AEA subcontracted to Databuild. This provides evidence to feed into the analytical work of other packages (for example, on the barriers to the take up of all cost-effective measures), but also provides stand-alone research that can be used to inform DECC's potential policy framework in this area.

The overall objective of work package 3 is to provide improved understanding of measures to overcome barriers to the uptake of energy and fuel efficiency measures within unconstrained businesses.

Databuild research built upon the research already conducted by DECC, AEA and other bodies to quantitatively:

1. Quantitatively ranking the severity and extent of the barriers already recognised
2. Explore the measures that businesses feel may counter different barriers

2.2 Methodology

2.2.1 Sampling

400 interviews were conducted with sites in England that lie within the 'unconstrained' sector. Sample was structured on the basis of size, with a random split in sector and property tenure. The size bands were constructed on the basis of site employee numbers, as follows:

- 0-1 employees (sole traders) – 80 interviews
- 2-9 employees – 120 interviews
- 10-49 employees – 130 interviews
- 50+ employees – 70 interviews¹

The reason for including a larger sample in the two middle size groups is as follows:

- a. There are far fewer sites in the 50-249 group than the 1-49 so it would be useful to obtain a more detailed picture in the latter group.
- b. We have already anticipated that sole traders will behave largely like consumers and have less scope to reduce carbon than larger SMEs (indeed, some may not even have a business premises). Therefore we should interview a sample of sole traders to explore the characteristics of this group, but the main focus of the interview breakdown should be elsewhere.

Although no quota was placed on different sectors, the sector types were split into the following groups on the basis of their SIC code:

- Agriculture and primary
- Manufacturing
- Construction
- Wholesale and retail
- Hotels and catering
- Transport and communications
- Business services
- Personal services

For smaller sites, the key decision maker within the organisation (i.e. owner / managing director) was interviewed. For larger sites the person with overall responsibility for energy efficiency on site (usually either a director or specialist manager) was interviewed.

2.2.2 Database

The database of contacts was sourced from a commercial supplier. 15% of records were unusable e.g. the numbers did not work, the business was no longer operating.

¹ Although the majority of interviews with sites in this size group were conducted with SMEs i.e. those with less than 250 employees, a small sample of large / non-SME businesses were sampled, as not all are covered by existing policies / programmes.

2.2.3 Weighting the data

The data was sampled on the basis of site size (i.e. the number of employees on the site decided size group categorisation rather than the number of employees in the whole organisation). The data was also weighted on this basis. To do this, the following steps were taken:

1. BIS stats² were used to show the number of businesses in each site size band
2. The responses to the survey question 'how many sites does your organisation operate from' were averaged for each organisational size band (i.e. based upon numbers of employees in the whole organisation)
3. This produced an average number of sites for businesses in different organisational size bands e.g. interviewed businesses with 2-9 employees in the whole organisation had 1.112 sites per business on average.
4. The businesses were then given a site weighting factor by multiplying the number of businesses in the site size band (identified through the BIS stats) by the average number of sites in that size band e.g. there are 720,312 businesses with 2-9 employees in England, so the site weighting factor for these respondents was obtained by multiplying 720,312 by 1.112.

50+ employee sites were weighted to all business sizes over 50 i.e. not cut off at 249 employees. This is because a small sample of +250 employee sites were deliberately included in the sample, as not all will be covered by CCAs or CRCs.

² <http://stats.berr.gov.uk/ed/sme/>

3 Profile information

The following section sets out some of the demographic information on respondents.

3.1 Premises

Although 43% of all SME sites are based in domestic premises, the interviews in this research were largely conducted with those operating from commercial premises. Those with domestic premises are covered by CERT and were therefore only interviewed if they operated vehicles as part of their business and were only asked about fuel efficiency activity.

In terms of sectoral differences in levels of domestic and non-domestic properties, almost all manufacturing and retail sites were considered by respondents to be business premises, whilst most construction firms operated from an individual's home.

In terms of sectoral differences in levels of commercial and industrial properties, all sites covered in the research were commercial except for businesses in the manufacturing sector, where 90% were described as industrial.

The breakdown of site type by site size was as follows:

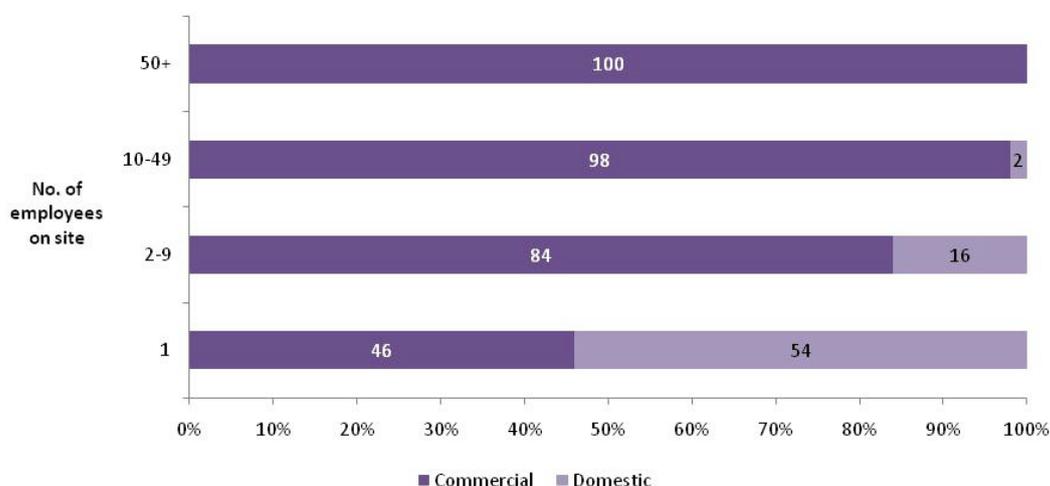


Figure 1: Site type proportions by site size (n=400, N=4,643,183)

Domestic sites cease to be used once sites grow beyond 50 employees. In contrast, over half of single employee sites operate from domestic premises.

Where sites operated from a commercial premises, respondents were asked about the way in which the premises were owned / paid for. The extent to which different arrangements are in place is as follows:

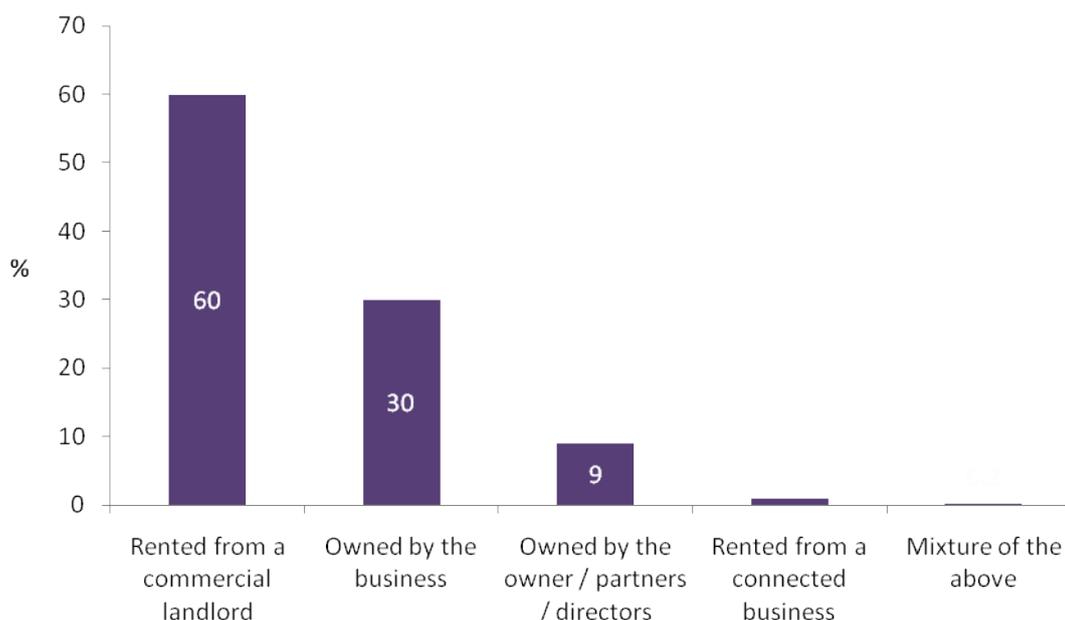


Figure 2: Tenure of commercial premises (n=333, N=2,644,815)

Most sites are rented from commercial landlords, though almost two fifths are owned by the business or the business owners. Where premises were paid for through a mixture of arrangements, this was where some of the buildings on a site were owned by the business and others were rented from a landlord.

Industrial (i.e. manufacturing / primary) sites (67% owned) were significantly more likely to be owned by the business than commercial (all other site types) sites (36% owned).

Sites in the agriculture, manufacturing and hotel / catering sectors were those most likely to own the site premises. Construction and wholesale and retail sites were most likely to be renting premises.

There was no large difference between business size bands and propensity to rent or own premises, though sites with more than 50 employees were slightly more likely to own premises. Single employee sites were as likely to be owned by the business as sites with between 2 and 49 employees.

3.2 Bills

Where they operated from commercial premises, respondents were asked how electricity and gas bills were paid. 86% of respondents pay for some form of energy directly to the supplier (i.e. not through a service charge). 43% of sites pay both electricity and gas direct to the supplier whilst a further 43% pay only electricity to the supplier and less than 1% pay only gas. 14% do not pay utility bills directly to the supplier.

This means that for many sites, energy is under their control and they get the benefit of savings as they own the premises and / or pay utility bills.

8% of industrial sites do not pay bills direct to the supplier compared to 14% of commercial sites. The only sector in which the majority of sites do not pay for bills directly is construction (70% do not) where utility costs tend to be met by the construction firm's clients.

Where sites did not pay for their electricity or gas directly, 39% pay for it through their premises rent whilst 36% pay through a separate service charge.

The remainder included various responses; most did not know how site utility bills were paid as they were met by a parent company or head office, or resolved by a broker. A very small proportion of sites do not have utility bills as they consist of a yard with no electricity or gas.

On less than 1% of owned sites, the business does not pay for the bills. In contrast, bills are not paid by the business on approximately one fifth of rented sites.

The chart below shows the breakdown of bill payments amongst all commercial i.e. non-domestic sites and for industrial and commercial sites:

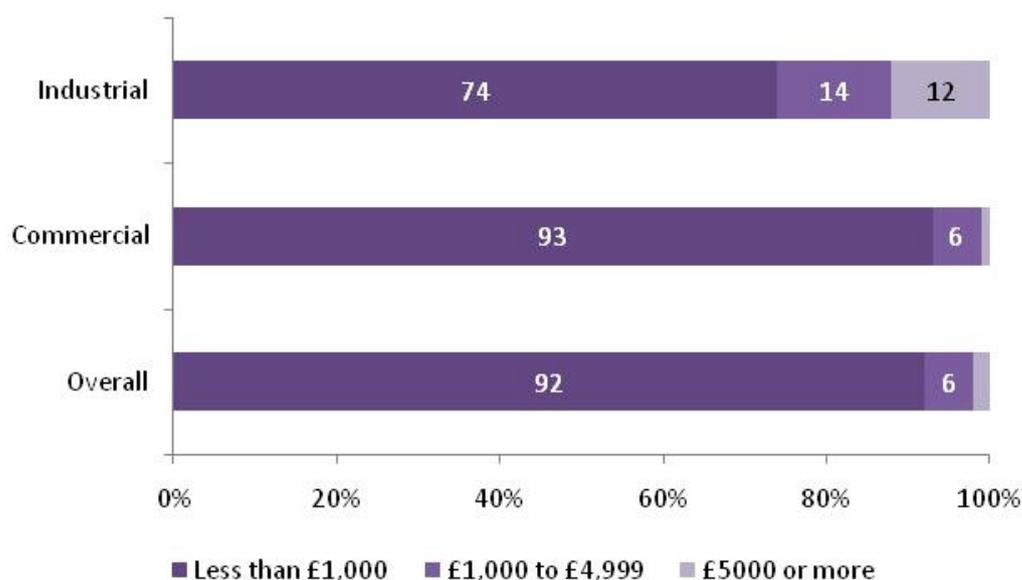


Figure 3: Breakdown of sites by energy bill per annum (n=333, N=2,644,815)

3.3 Vehicle use

All respondents were asked whether or not their business operates vehicles as part of its work.

72% of respondents operate vehicles in the business. Of those, 67% operate cars, 67% operate vans, 31% operate HGVs and 31% operated other vehicles. The HGV and van figures seem quite high and may be a reflection of the proportions of construction and manufacturing sites in the sample.

The business pays for the fuel for these vehicles in 96% of cases.

4 Progress with energy and vehicle fuel efficiency

As part of establishing the profile of the site and exploring respondent perceptions, all respondents in commercial premises were asked to state which of the following four statements could best be applied to their business:

- The organisation has not investigated ways to reduce energy and fuel use
- The organisation is aware of ways it could reduce energy and fuel use but has not acted upon these
- The organisation has put in place a number of measures to reduce energy and fuel use but there is more that could be done
- The organisation has put in place all the energy and fuel use reduction measures available to it

The overall breakdown of responses was as follows:

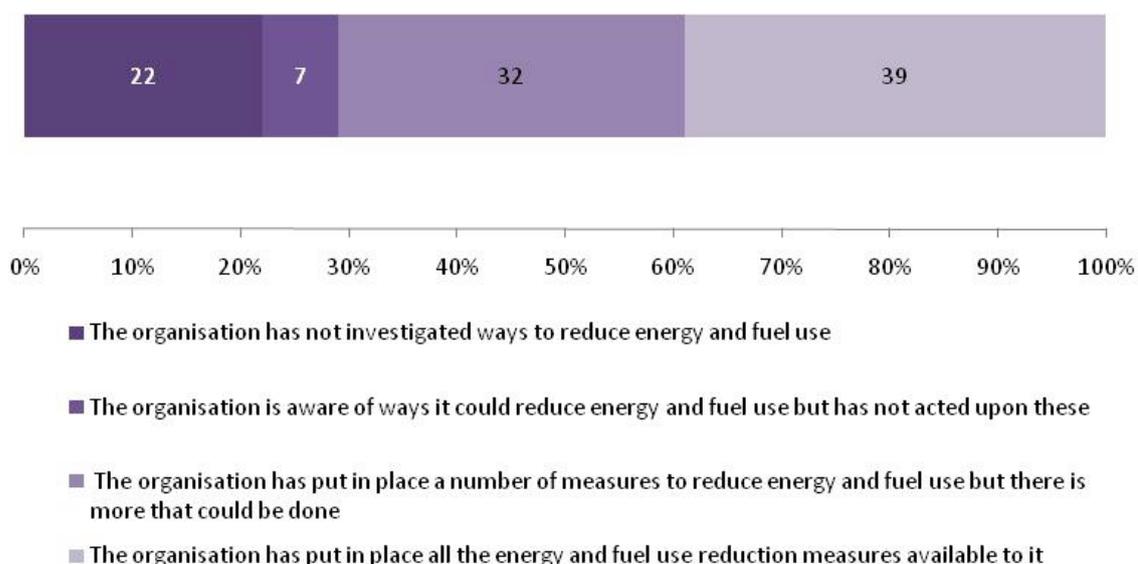


Figure 4: Perceived level of activity amongst businesses (n=333, N=2,644,815)

Only 4% of industrial sites had not investigated ways to reduce energy / fuel use compared to 24% of commercial sites. 62% felt that they had done everything possible compared to 36% of commercial sites.

In terms of site tenure / bills status, the breakdown of responses was as follows:

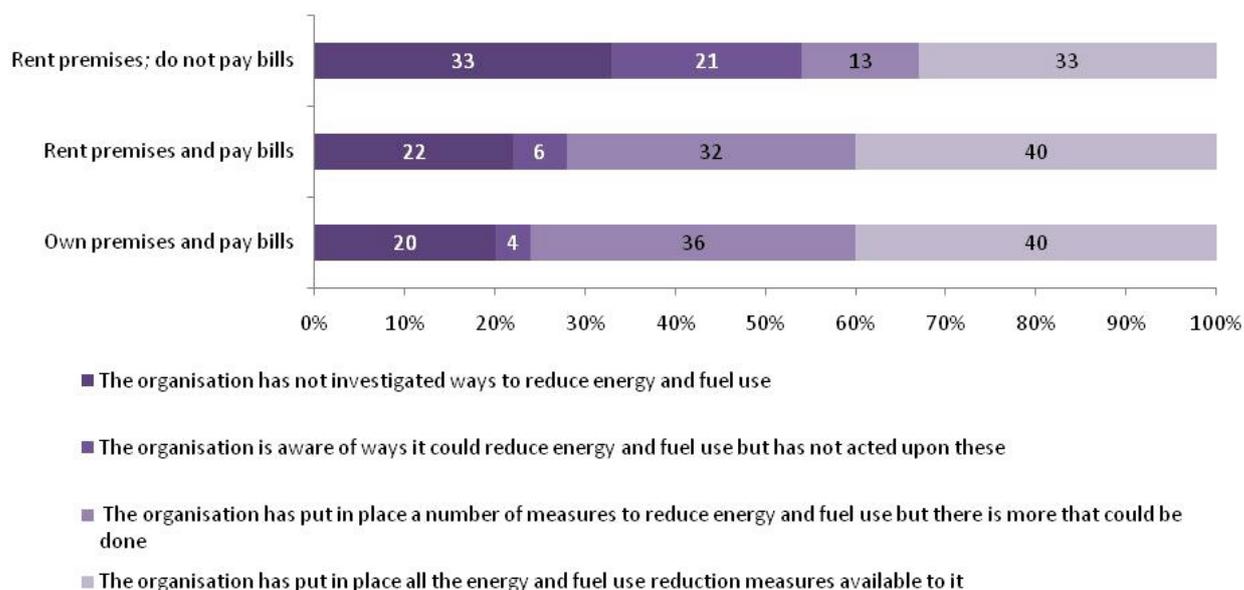


Figure 5: Perceived level of activity amongst businesses by tenure and bill paying status (n=333, N=2,644,815)

The chart shows that those sites where the landlord pays the energy bills are less likely to have investigated actions they could take and less likely to feel they have done everything possible / practical.

The full breakdown of site size by the statement they aligned with is shown below:

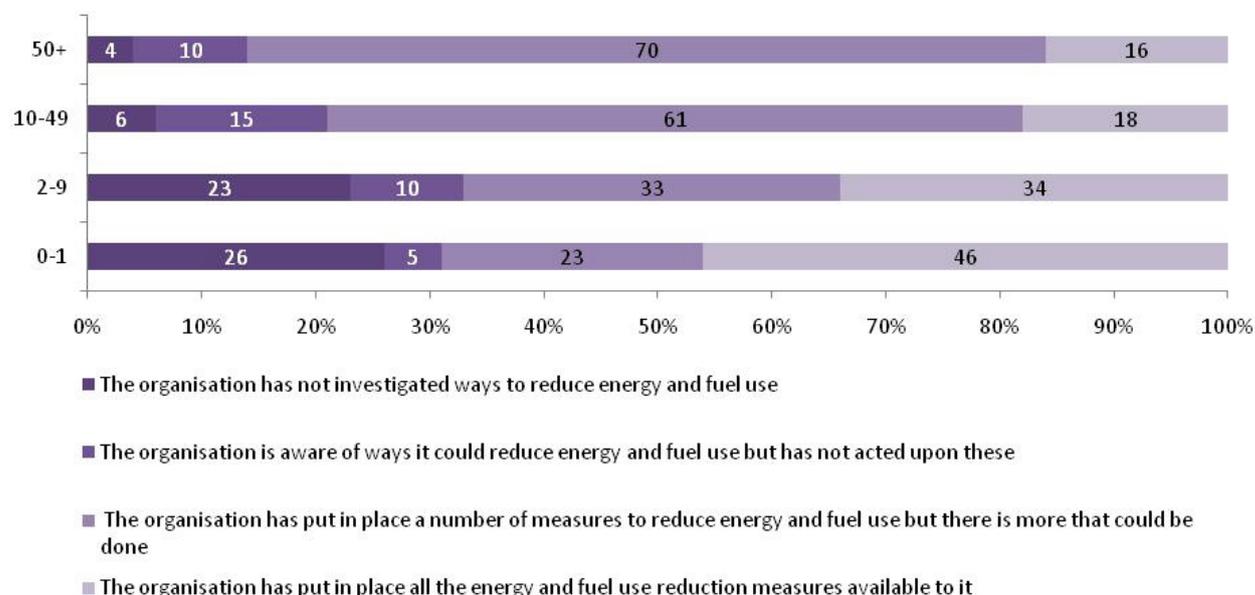


Figure 6: Site size by agreement with the statements (n=333, N=2,644,815)

Single employee sites were the most likely to not have investigated measures. However, they were also the most likely to feel that everything possible had been done. Section 4.1 shows that single employee sites may be in the same situation and yet select the two opposing options.

Large sites were those most likely to accept that they had taken action but could do more. The proportion of sites stating this reduces as the size bands reduce. This is likely to be due to greater knowledge within larger businesses as to the range of measures they could undertake.

4.1 Not investigating

Where respondents stated that they had not investigated ways to reduce energy and / or fuel use, they were asked why. Most respondents stated that they did not see the point, either because they did not feel that they had much potential to save (particularly where they were a very small organisation), or because they felt they had done all they could already. However, as they have not investigated measures, this response seems to be a perception rather than an evidence-based assessment.

- *"I don't think there's any way to reduce our energy usage."*
- *"The assumption that we have is there is nothing to reduce."*
- *"We've never addressed it, because we're a smaller business. We only use a small amount of energy."*

Sites also cited barriers due to the nature of their premises or activity.

- *"We're an engineering workshop, and manufacturers have rules. We do produce high emissions but there's nothing we can do about it, because that's what our business takes to work."*
- *"Well I don't think we can; with the job we have to be out on the road all the time so we have to use fuel, and it's a rented building so we can't do anything to it."*

A small number of respondents said that they had not investigated this because they hadn't got round to it:

- *"It's not something we've really looked into. It's always back of your mind."*
- *"I don't know, I just haven't really thought about it. I'm more preoccupied with work."*

When asked if they plan to investigate ways to reduce energy and fuel use, 25% of respondents who selected the first statement said that they are. Even where they were planning to investigate ways to reduce energy and fuel use, very few respondents had a clear idea of what measures they were looking to investigate. Two mentioned conversion of vehicles to alternative fuels.

The remaining 75% were asked why they were not planning to investigate ways to reduce energy and fuel use. The responses given again centred around a perception that there would not be much value in doing so, that everything possible had already been done, or that there were implacable barriers to action. Some respondents also felt that they did not have time to investigate measures. Responses included:

- *"Because we have to go through the land lady she makes all the decisions to the business."*
- *"We have got nobody to look for us and we haven't got the time ourselves."*
- *"I don't see the need for it. I have a tiny unit and there's not much I need to do."*
- *"It's not really much of concern for me, because I don't use much."*

- *"Not at the present or in the foreseeable future. I have limited control over what I can do - I don't own the shop, I don't own the building. It's a grade two listed building of historical importance."*
- *"Just because we don't use enough energy to justify further action."*
- *"It's not my highest priority at the moment. Everyone understands how to reduce their energy consumption, but really what is it for? I understand about saving the polar bears, but is there really actual savings?"*

4.2 Aware but not acting

All respondents that stated they were aware of measures but had not moved to implement any were asked why they had not done so. The reasons given by respondents were as follows:

- **Cost:**
"We've considered changing our vehicles to cleaner vehicles, but the cost is stopping us from doing that."
"We are aware but it's the just the cost, it's been difficult with the recession. The only way to save money long term seems to be to spend money in the short term."
"They did not have any meaningful savings, or the payback was too long."
- **Premises:**
"We are in rented premises, so we are not allowed to do anything."
"Because it's a grade 2 listed building, we're not allowed to put any new measures available in there."

41% of those that are aware of measures are actually planning to implement them.

4.3 Potential for more implementation

Where respondents felt that they had introduced some but not all the measures available to them, they were asked why they had not. Reasons were always either time or cost:

- *"It's a case of money - what saves us money."*
- *"Cost, really. We're looking at a wind turbine to reduce our energy usage, which would cost about £50,000."*
- *"Mainly because of cost; we are restrained due to the current economic climate."*
- *"This is an issue regarding time and resources. We need the people available to look into the problems and to come up with solutions."*
- *"At the moment I'm quite busy so I haven't got the time to look into measures fully."*

50% of respondents plan to introduce additional measures they are aware of.

4.4 Advice sought

All respondents were asked whether they had ever previously sought advice on reducing energy / fuel use. 20% said they had done so. Advice received by sites covered the following:

- Recommendations for measures to improve site energy / fuel efficiency; this was either in the form of a full audit or ad hoc advice on a particular type of measure

- Availability and signposting of practical and financial support to implement measures

24% of industrial sites have previously sought advice compared to 19% of commercial sites.

Large sites and businesses were significantly more likely to have sought and received advice. 68% of sites with more than 50 employees had sought advice, compared to 37% of sites with 10-49 employees and 14% of sites with less than 10 employees.

Owned sites were also slightly more likely to have sought advice. 29% had done so compared to 23% of rented sites.

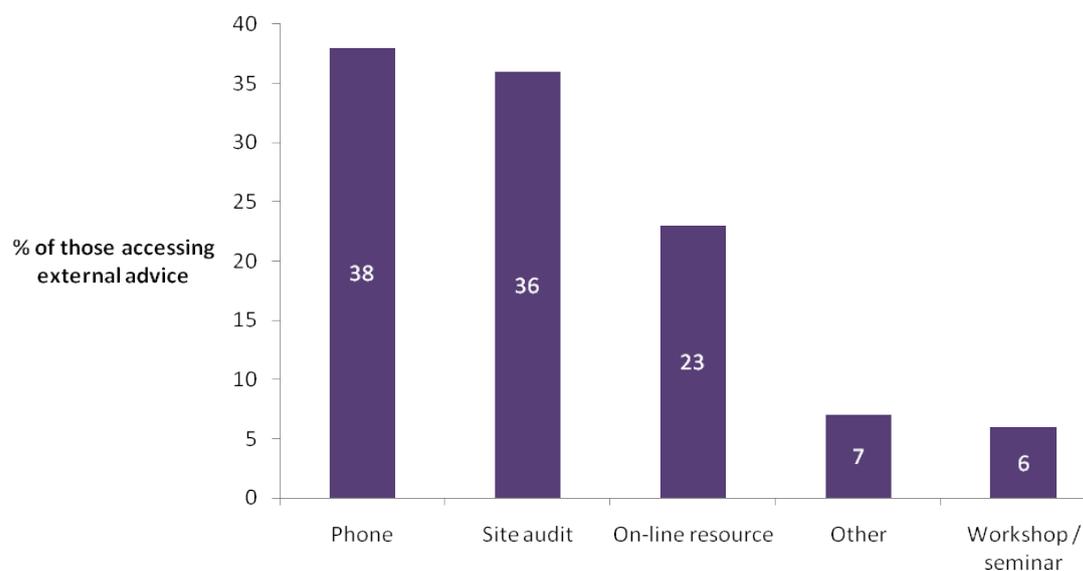
4.4.1 Source

Where they had sought advice, the respondent was asked which sources they had used. 36% had used Carbon Trust services, 33% had used the internet, 18% had received advice / support from their energy supplier, and 17% from a specialist energy consultancy. Our research on behalf of businesslink.gov.uk³ showed that where sites use the internet, this is usually typing a particular issue or information need into a search engine rather than specifying a particular website.

A wide range of sources were individually mentioned by less than 5% of respondents; these included trade press, organisations such as Groundwork and NEF, manufacturers, business forums, and national press. Several respondents stated that they had received advice or information but could not remember who had provided it.

4.4.2 Method

Sites accessing external advice were also asked in what form the advice had been provided. The results were as follows:



³ Impact Assessment of businesslink.gov.uk – Final report - Wave V – April 2010

Figure 7: Different methods through which advice was provided (n=107, N=443,377)

Telephone and site audits were the most common medium through which advice was provided.

Where respondents cited 'other' methods, these were usually either leaflets or publications.

4.4.3 Effectiveness and satisfaction

All sites that had received advice were asked how satisfied they were with this (on a scale of 1 to 5 where 1 was very dissatisfied and 5 very satisfied).

Overall, only 67% of respondents were satisfied with the advice whilst 23% were dissatisfied. Where advice was very satisfactory, the advisors were helpful, focused upon the business, friendly and practical. They also clearly demonstrated cost savings. Conversely, where advice was unsatisfactory, it was seen as being impractical to implement, costly and generic.

Large sites were more likely to be satisfied with the advice received and more likely to act upon it. This is shown in the chart below:

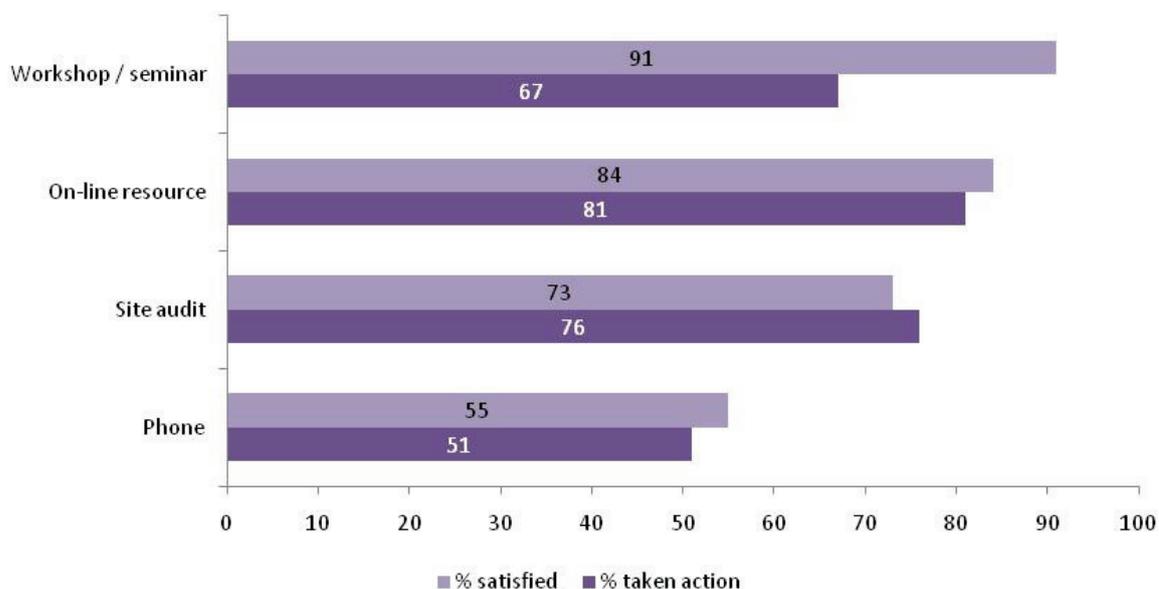


Figure 8: Satisfaction with, and implementation of, advice by size group (n=107, N=443,377)

The chart also shows that there is a correlation between satisfaction with the advice and propensity to take action.

The next chart shows the relative effectiveness of different methods of support provision:

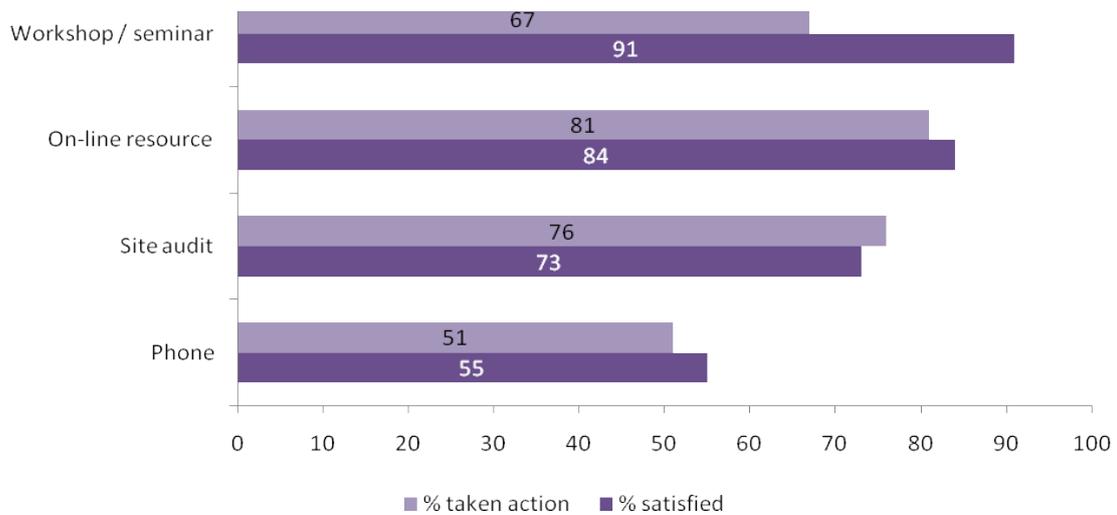


Figure 9: Relative satisfaction with and effectiveness of different support methods (n=107, N=443,377)

The chart indicates the following:

- Individuals like workshops but often don't derive tangible actions from them
- Telephone advice is often neither effective nor popular with sites
- On-line advice appears to be most effective at inspiring the recipient to act on the advice. However, it is not clear what level of advice is being referred to. It is likely that site audits recommend / inspire more substantial activities.

4.5 Accessing advice sources in future

All respondents on commercial sites were prompted as to which advice sources they may consider accessing in the future. The extent to which different sources were likely to be accessed is shown below: (The %s are cumulative).

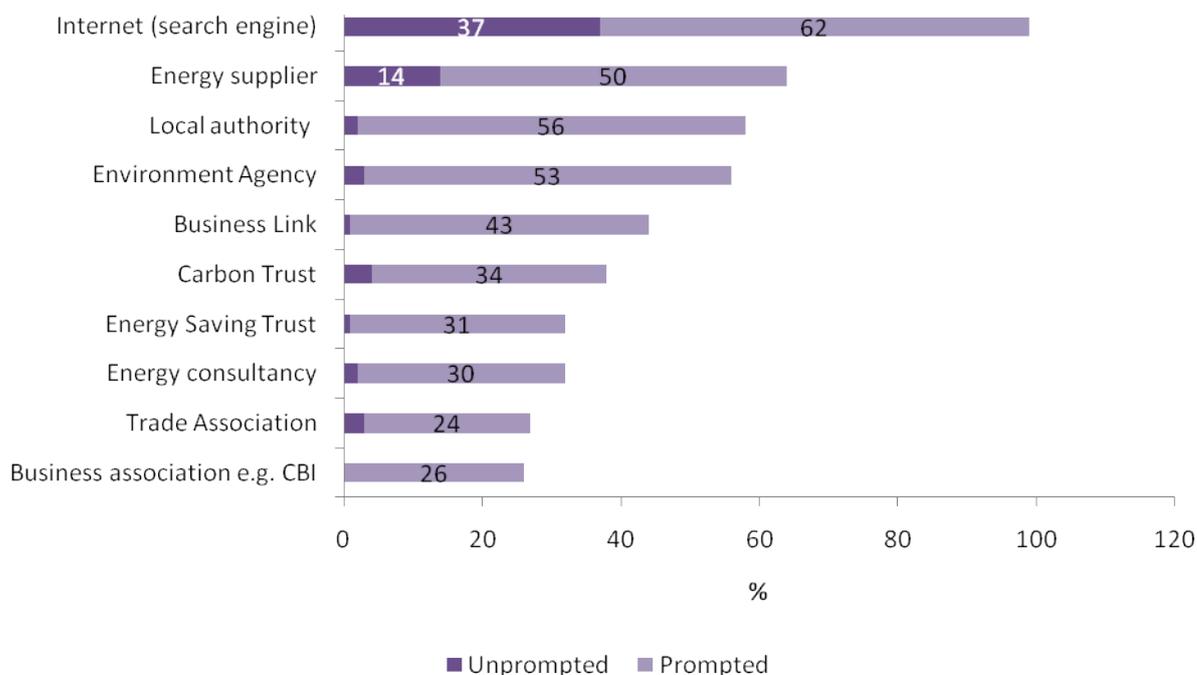


Figure 10: Level of interest in accessing different advice sources (n=333, N=2,644,815)

Before being prompted with services, 30% of sites did not know where they would go to obtain advice on energy or fuel efficiency. Even after prompting, 7% said they were not interested in seeking advice from any source.

Smaller sites and those either owned by directors or rented from connected businesses were the least likely to be interested in any form of advice.

4.6 Conclusions

Larger businesses and those in owned premises are more likely to have taken action and to feel that there is more they could do. Smaller sites and those in rented premises generally do not feel they have as much room for manoeuvre, usually due to lack of resource but also due to tenant limitations.

Although one fifth of sites have accessed support on energy / fuel efficiency in the past, around one third were not aware of sources of advice without prompting. In addition, satisfaction with advice varied, and many that had accessed advice said that this was through ad hoc internet searches.

There are a substantial group of sites (usually small) which have not investigated energy / fuel efficiency either because they see no value in doing so or believe they are doing everything practical. They often have fairly small energy bills and do not perceive energy efficiency and business performance to be connected i.e. they state they do not have time to investigate energy efficiency because they are focused upon keeping the business running / making it profitable. Some sites in this group believe they have done everything possible but may not be aware of the range of options open to them. Many small sites were difficult to engage in the research as they did not see energy efficiency issues as being of any relevance to them at all.

5 Levels of action

5.1 Energy efficiency

All non-domestic sites were prompted as to the level of action that had been taken in:

- Lighting e.g. energy efficient bulbs, timers
- Heating e.g. boiler replacement, heating controls
- Insulation e.g. loft and / or wall insulation

The extent of action in each area is shown below:

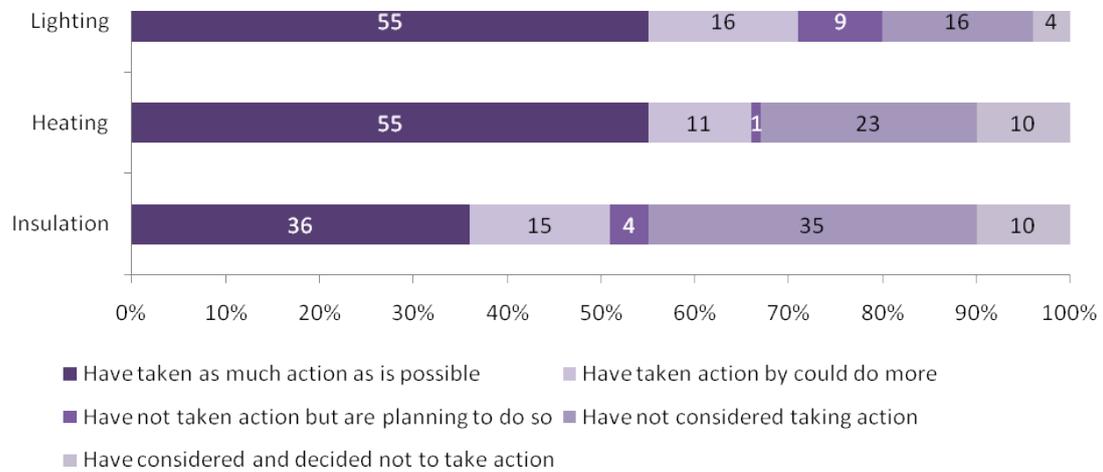


Figure 11: Extent of energy action (n=333, N=2,644,815)

All sites that operated vehicles were prompted as to the level of action that had been taken in fuel efficiency e.g. driving techniques, aerodynamics.

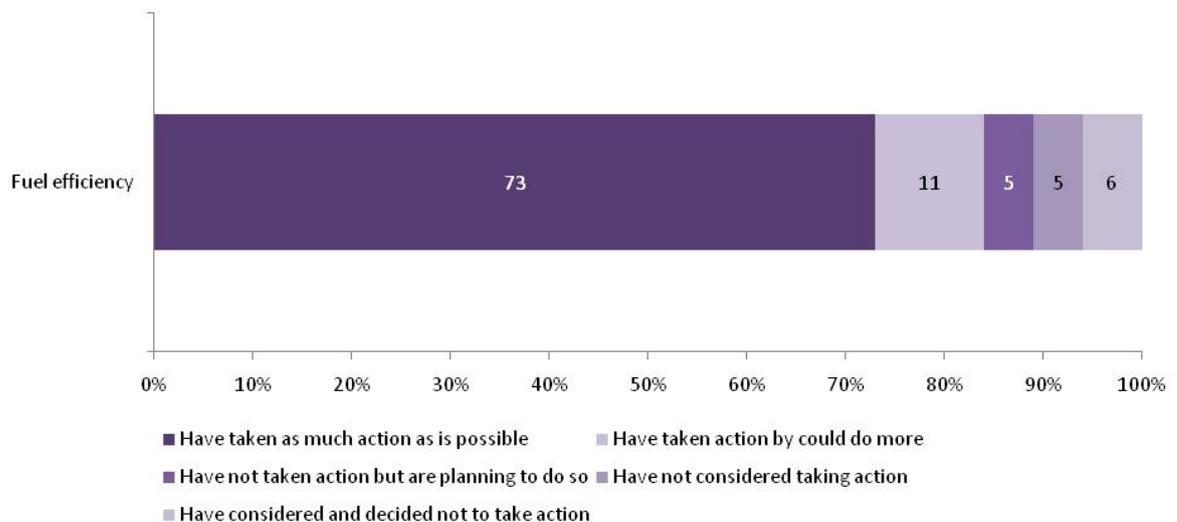


Figure 12: Extent of fuel efficiency action (n=203, N=2,999,160)

The breakdown of perceived action in each area across different tenure / bill paying status is shown in the table below:

	%	Own premises and pay bills	Rent premises and pay bills	Rent premises; do not pay bills
Lighting	Have taken as much action as is possible	62	56	30
	Have taken action but could do more	18	18	3
	Have not taken action but are planning to do so	4	11	19
	Have not considered taking action	14	10	43
	Have considered and decided not to take action	2	5	5
Heating	Have taken as much action as is possible	64	51	39
	Have taken action but could do more	19	5	3
	Have not taken action but are planning to do so	3	1	2
	Have not considered taking action	4	34	47
	Have considered and decided not to take action	10	9	9
Insulation	Have taken as much action as is possible	31	42	28
	Have taken action but could do more	23	8	19
	Have not taken action but are planning to do so	8	2	
	Have not considered taking action	26	40	42
	Have considered and decided not to take action	12	8	11

Table 1: Perceived action in lighting, heating and insulation by tenure / bill paying status (n=333, N=2,644,815)

As shown in figure 5, those sites where the landlord pays energy bills were the least likely to have taken action to improve energy efficiency.

Overall, 22% of sites felt that in all four areas they had done everything possible. 24% of commercial sites felt that they had done everything possible for all measures, compared to just 5% of industrial sites.

Sites were more likely to feel that everything possible had been done in heating, lighting and (where they operate vehicles) with regards to fuel efficiency. The greatest potential for enhanced activity recognised in insulation. Although no greater proportion of sites had rejected the possibility of taking insulation action, one fifth had not investigated it and a quarter of those that had taken action believed there was more they could do.

Although it seems very unlikely that over half of sites have taken wall or loft insulation action, responses regarding action taken indicate that many sites consider double glazing and basic draught proofing as being proper insulation measures.

Manufacturing sites (perhaps recognising the extent of opportunities for action that are open to them) and large sites were those least likely to state that everything possible was being done in all areas. 27% of single employee sites felt that no further action could be taken compared to 13% or 14% of sites in all the other size bands.

Interestingly, only 38% of those that felt everything possible had been done without being probed on individual measures (see section 4), still said they were doing everything possible when they were probed on individual measures. 24% of commercial sites that pay bills felt they were doing everything possible compared to 6% of sites that do not pay bills.

6 Motivations to action

6.1 Lighting

Where respondents stated that lighting action had been taken or is being planned, they were asked what their motivations were for doing this. The chart below shows the proportion that selected each source of motivation:

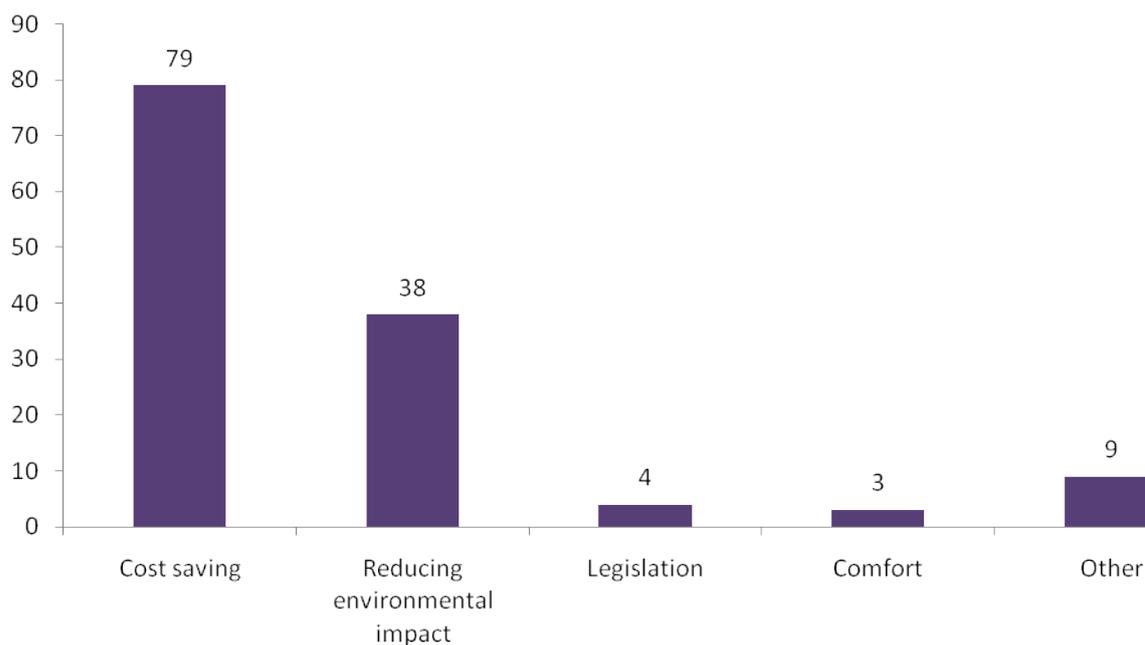


Figure 13: Motivations for taking lighting action (n=273, N=2,183,252)

The chart shows that by far the main motivation for action was potential cost savings. Reducing environmental impact was also important. This referred purely to the environmental benefits derived from actions rather than the improvement in company credentials or CSR.

'Other' motivations mentioned by respondents included internal targets (2%), the fact that the premises / lighting needed upgrading anyway (2%), organisational image (1%) and customer requirements (<1%).

The motivations cited by respondents (broken down by tenure / bill paying status) were as follows:

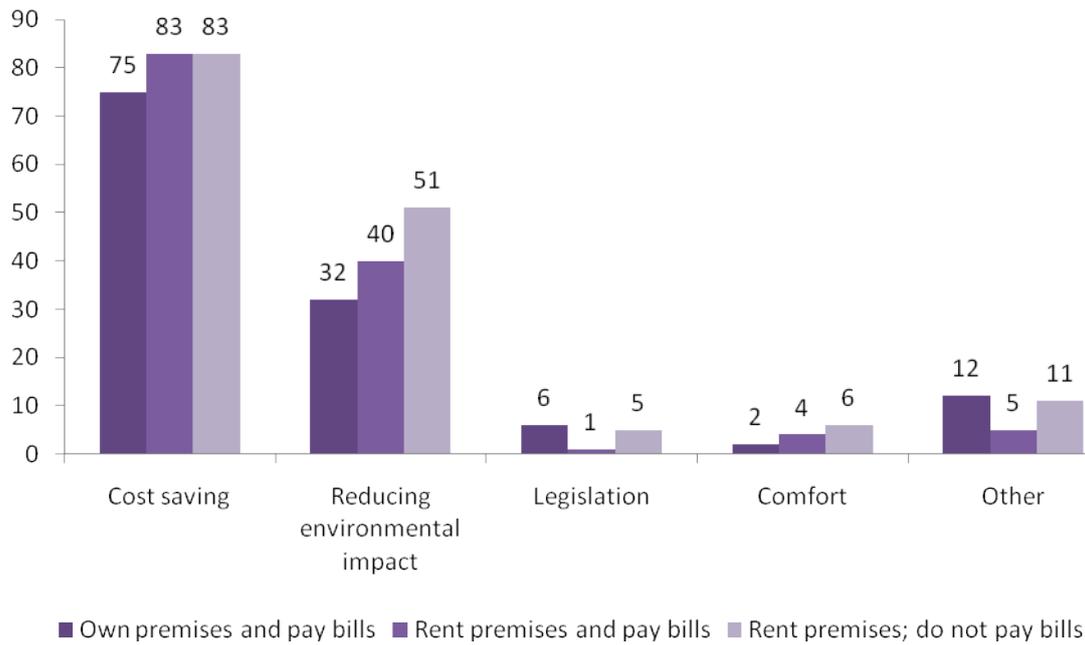


Figure 14: Motivations for taking lighting action by tenure / bill paying status (n=273, N=2,183,252)

Respondents were then asked which of the motivations they selected were the most important in influencing them to take / plan action. This is shown below:

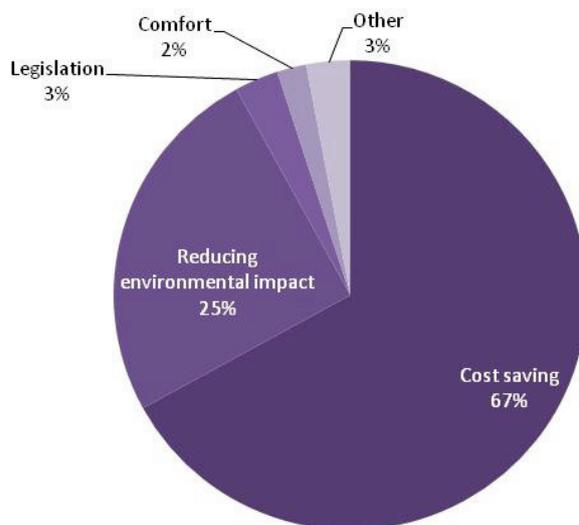


Figure 15: Breakdown of the most important motivations to take lighting action (n=273, N=2,183,252)

The results show that cost savings, whilst still the most commonly selected motivation, are less strong (i.e. not all those that selected cost as a motivation selected it again as their *main* motivation) compared to legislation, internal targets, or customer requirements.

The principal motivations cited by respondents (broken down by tenure / bill paying status) were as follows:

%	Own premises and pay bills	Rent premises and pay bills	Rent premises; do not pay bills
Cost saving	65	73	41
Reducing environmental impact	24	22	42
Legislation	7	0	1
Comfort	1	2	5
Other	3	3	11

Table 2: Breakdown of the most important motivations to take lighting action by tenure / bill paying status (n=273, N=2,183,252)

6.2 Heating

Where respondents stated that heating action had been taken or is being planned, they were asked what their motivations were for doing this. The chart below shows the proportion that selected each source of motivation:

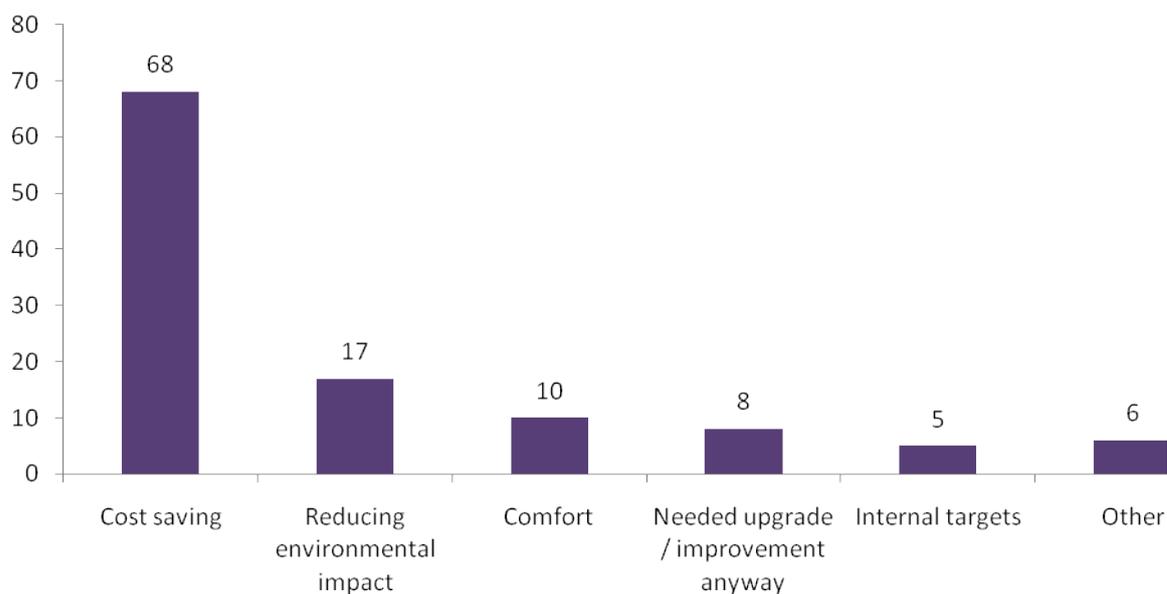


Figure 16: Motivations for taking heating action (n=240, N=1,770,608)

The chart shows that by far the most common motivation for action was cost savings; for heating, the gap between this and other reasons was more pronounced. Comfort was mentioned more often as a motivation for heating action than lighting action, as was the requirement to upgrade current equipment. The latter was often in reference to boilers that had broken down.

Customer requirements were mentioned by 4% of sites; legislation and business image by less than 1%.

The motivations cited by respondents (broken down by tenure / bill paying status) were as follows:

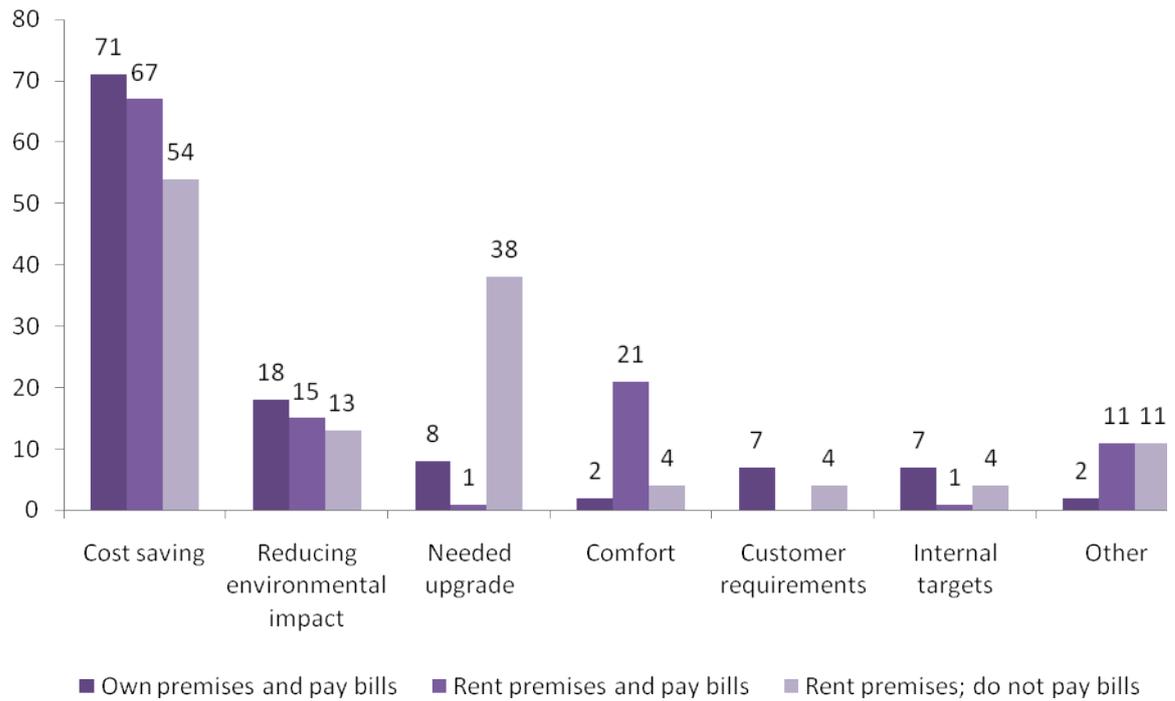


Figure 17: Motivations for taking heating action by tenure / bill paying status (n=240, N=1,770,608)

Respondents were then asked which of the motivations they selected were the most important in influencing them to take / plan action. This is shown below:

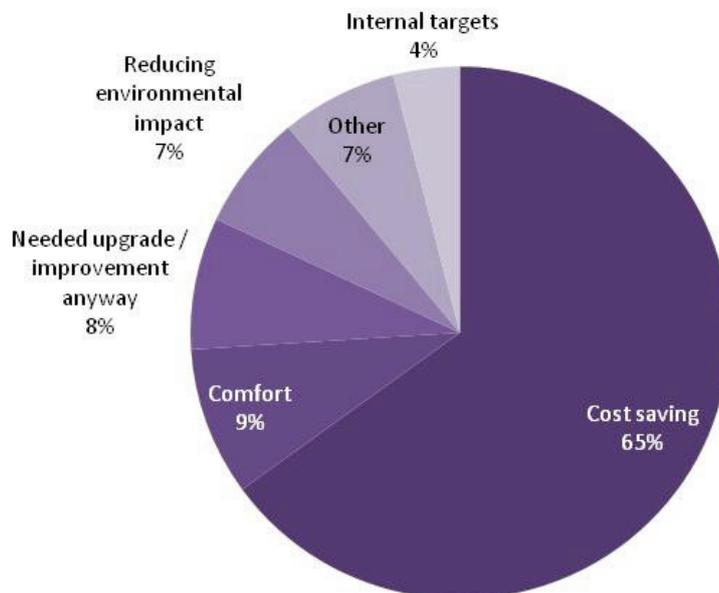


Figure 18: Breakdown of the most important motivations to take heating action (n=240, N=1,770,608)

As with lighting, smaller sites were less likely to be principally motivated by cost savings, whilst larger sites were the only size group principally motivated by image.

The principal motivations cited by respondents (broken down by tenure / bill paying status) were as follows:

%	Own premises and pay bills	Rent premises and pay bills	Rent premises; do not pay bills
Cost saving	68	64	53
Reducing environmental impact	9	4	3
Internal targets	7	0	0
Comfort	1	20	4
Needed upgrade	8	1	38
Other	7	11	1

Table 3: Breakdown of the most important motivations to take heating action by tenure / bill paying status (n=240, N=1,770,608)

6.3 Insulation

Where respondents stated that insulation action had been taken or is being planned, they were asked what their motivations were for doing this. The chart below shows the proportion that selected each source of motivation:

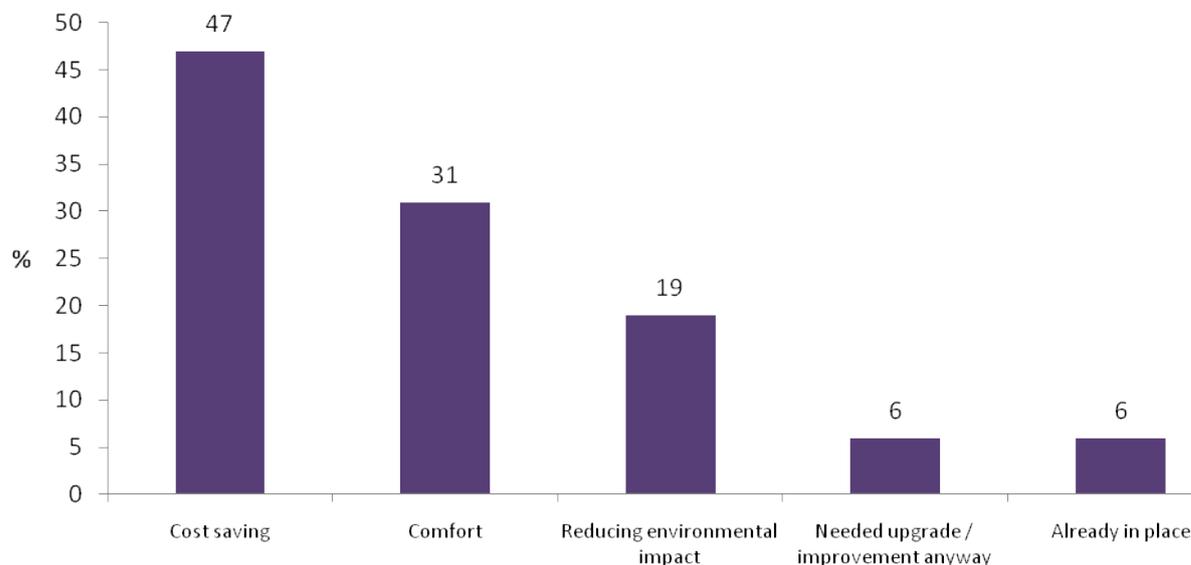


Figure 19: Motivations for taking insulation action (n=169, N=1,521,442)

Cost savings, whilst still the most selected motivation, were less likely to be mentioned in relation to insulation than for lighting or heating. Comfort was a far more common motivator than for other areas.

Image, internal targets and customer requirements were all mentioned by less than 1% of sites.

The motivations cited by respondents (broken down by tenure / bill paying status) were as follows:

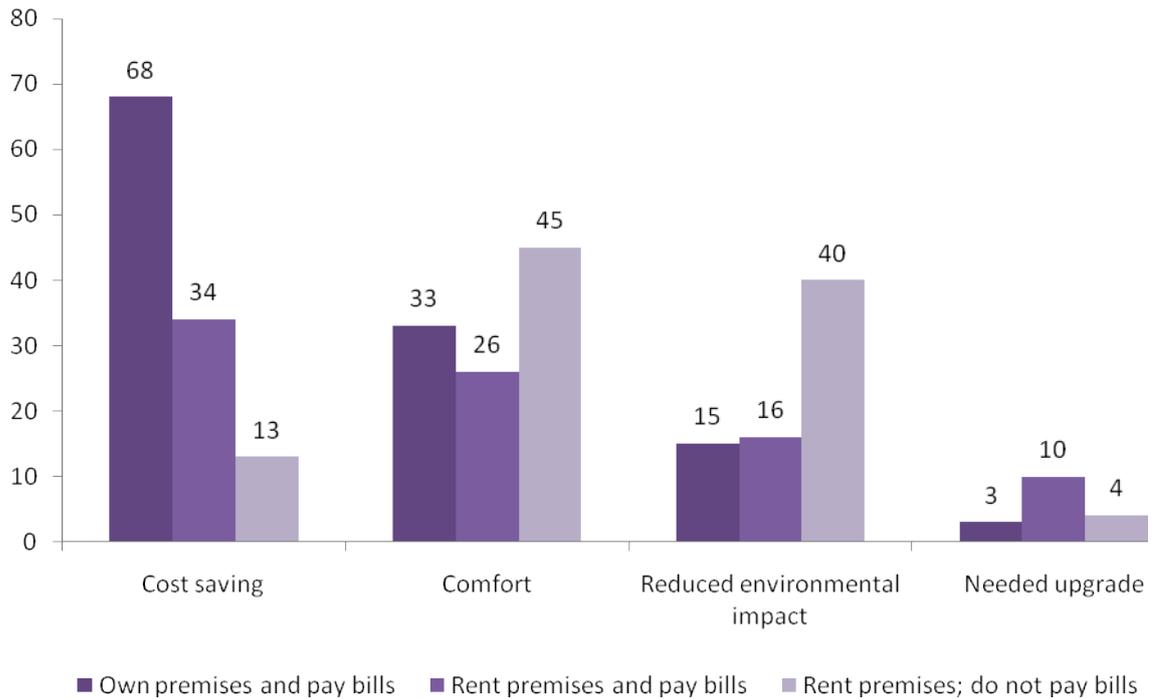


Figure 20: Motivations for taking insulation action by tenure / bill paying status (n=169, N=1,521,442)

Respondents were then asked which of the motivations they selected were the most important in influencing them to take / plan action. This is shown below:

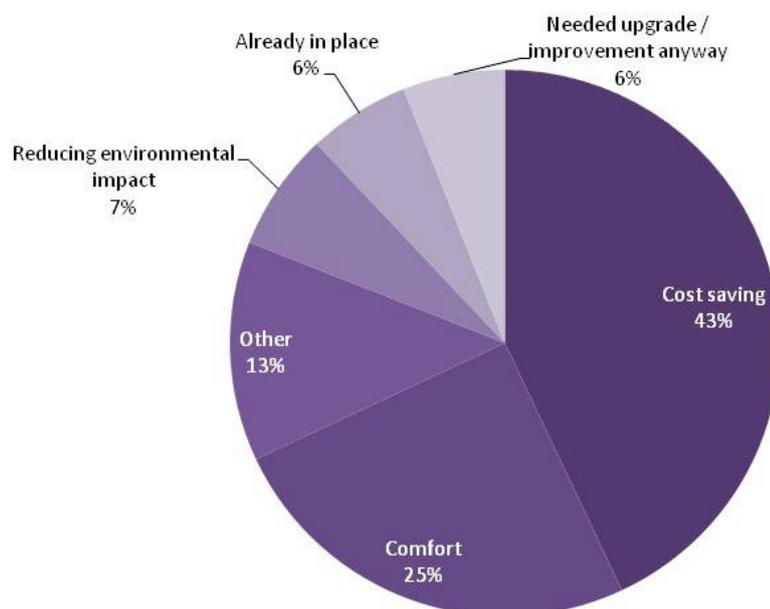


Figure 21: Breakdown of the most important motivations to take insulation action (n=169, N=1,521,442)

Perhaps surprisingly (as insulation carries the largest cost saving potential), less than half of those sites that have had insulation fitted stated that cost savings were the principal motivation for this. Comfort (in the form of keeping the building warm or reducing noise) was significantly more important a motivation for insulation than any other measure and was particularly important amongst manufacturing sites.

Smaller sites and rented sites were more likely than larger or owned sites to have had insulation in place before the business occupied it i.e. less likely to have done it themselves.

The principal motivations cited by respondents (broken down by tenure / bill paying status) were as follows:

%	Own premises and pay bills	Rent premises and pay bills	Rent premises; do not pay bills
Cost saving	63	30	13
Comfort	21	25	41
Reducing environmental impact	2	12	4
Needed upgrade	3	10	0
Other	11	23	42

Table 4: Breakdown of the most important motivations to take insulation action by tenure / bill paying status (n=169, N=1,521,442)

6.4 Fuel efficiency

Where respondents stated that fuel efficiency action had been taken or is being planned, they were asked what the motivations were for doing this. The chart below shows the proportion that selected each source of motivation:

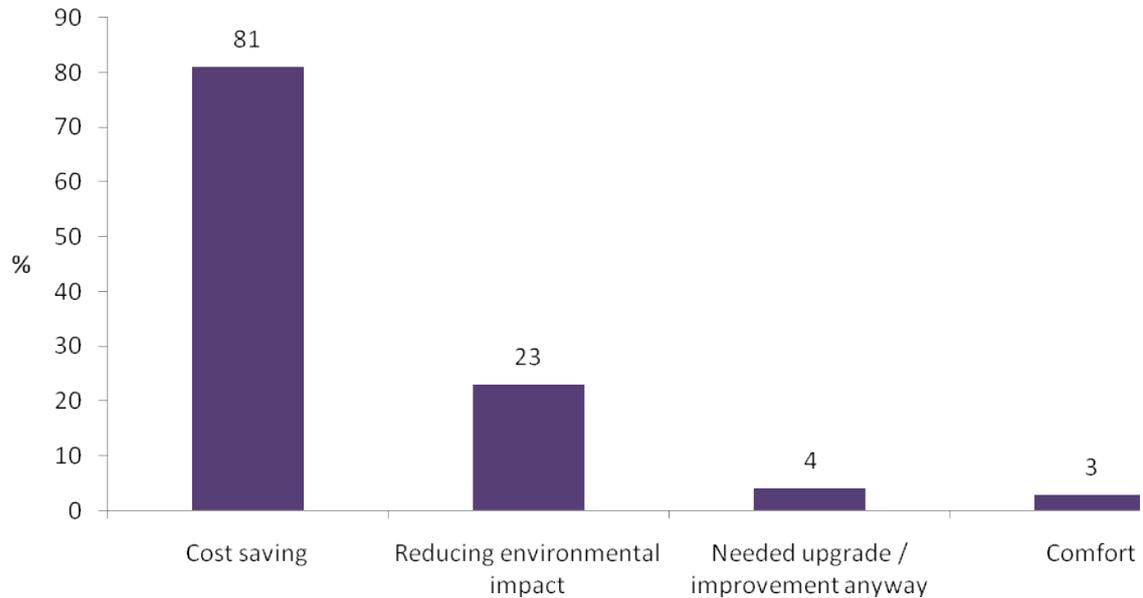


Figure 22: Motivations for taking fuel efficiency action (n=203, N=2,999,160)

By far the most commonly selected motivation was cost saving through reduction in fuel use.

Image, legislation and customer requirements were all mentioned by less than 1% of sites.

Respondents were then asked which of the motivations they selected were the most important in influencing them to take / plan action. This is shown below:

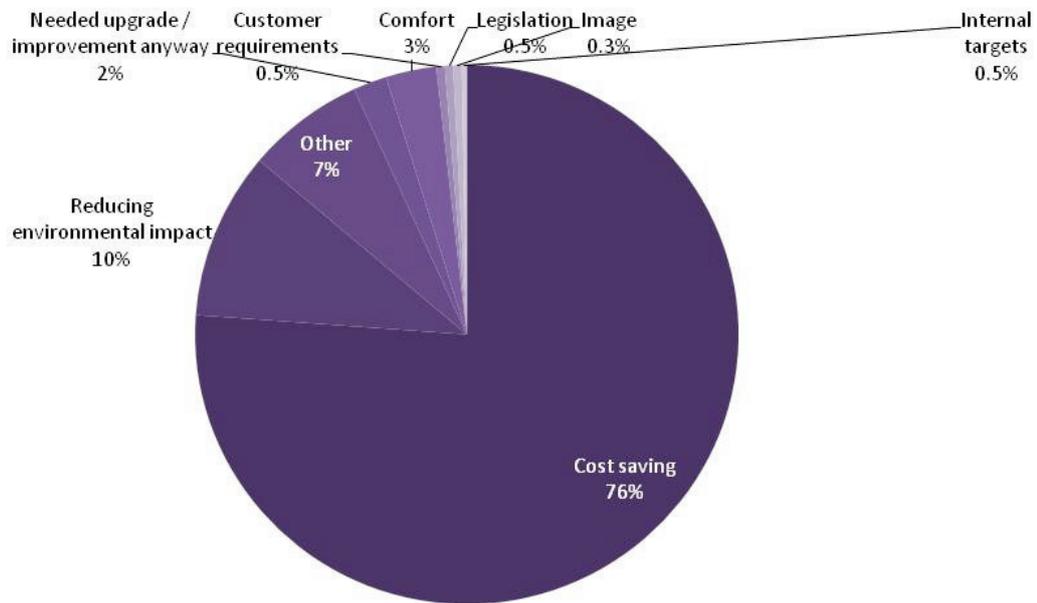


Figure 23: Breakdown of the most important motivations to take fuel efficiency action (n=203, N=2,999,160)

Cost savings were by far the most important motivation for most sites.

Transport and communications sites were the most likely to cite reduction in environmental impact as their principal motivation.

6.5 Conclusions

Overall, it is clear that across all business sectors and sizes, cost savings are the principal motivation to action and a factor in the decisions of most sites to take action. Reducing environmental impact is also important to some sites, whilst for insulation activity comfort is also a powerful motivator to action, but money is generally most important.

Industrial sites were significantly less likely than commercial sites to cite cost savings as a principal motivation across all measures; reducing environmental impact was generally more important and potentially tied in with company policies or compliance / targets. Commercial sites may be less likely to see an obvious need to reduce their environmental impact and therefore identify and justify action only where it produces financial benefit.

This indicates the importance of providing compelling data to show which measures will help sites to save money, how much, and how. Although a small proportion of sites may take action for more altruistic reasons (and messages such as increased comfort or customer image should be promoted), the clearest message to business needs to be the savings available.

Where they have taken action, small sites tend to be less likely to be principally motivated by cost savings. This indicates a split in the small site group, with some willing to take action for reasons other than cost savings (recognising perhaps that there is less of a margin to save), whilst others refuse to take any action because the potential cost savings are not convincing.

7 Barriers to action

All respondents in commercial premises were asked about the barriers they faced to taking more action on heating, lighting and insulation. All sites that operate vehicles were asked about the barriers to taking more action on fuel efficiency.

Respondents were asked an open question about barriers to action and then prompted with a series of barriers they had not mentioned. From these, they were then asked to select the most substantial barrier to action.

7.1 Lighting: cited barriers

The following chart shows the extent to which different barriers were mentioned without prompting or selected once prompted:

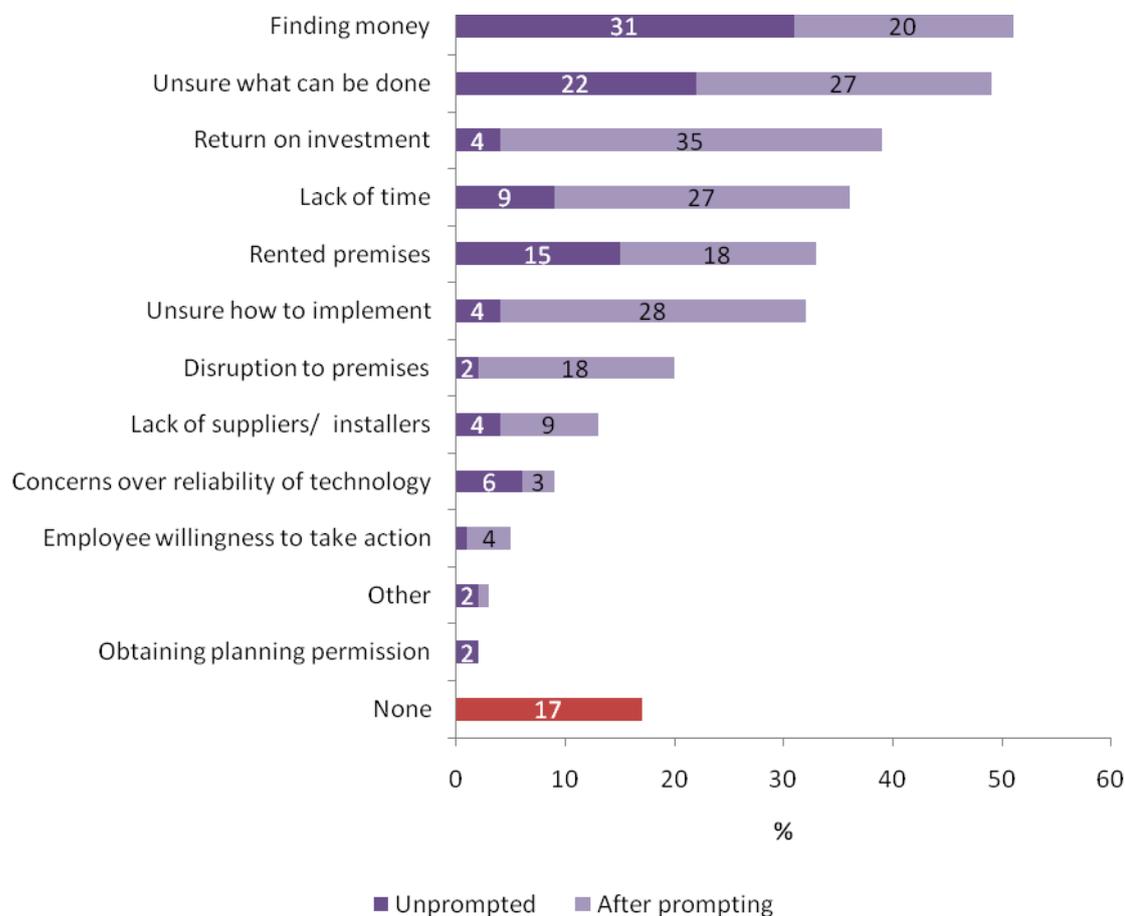


Figure 24: Extent to which different barriers are mentioned in preventing further action on lighting (n=333, N=2,644,815)

Where respondents had selected barriers (either prompted or unprompted) they were asked which of these was the principal barrier to taking action. The following chart shows the barriers selected as most important by respondents when considering taking further lighting action:

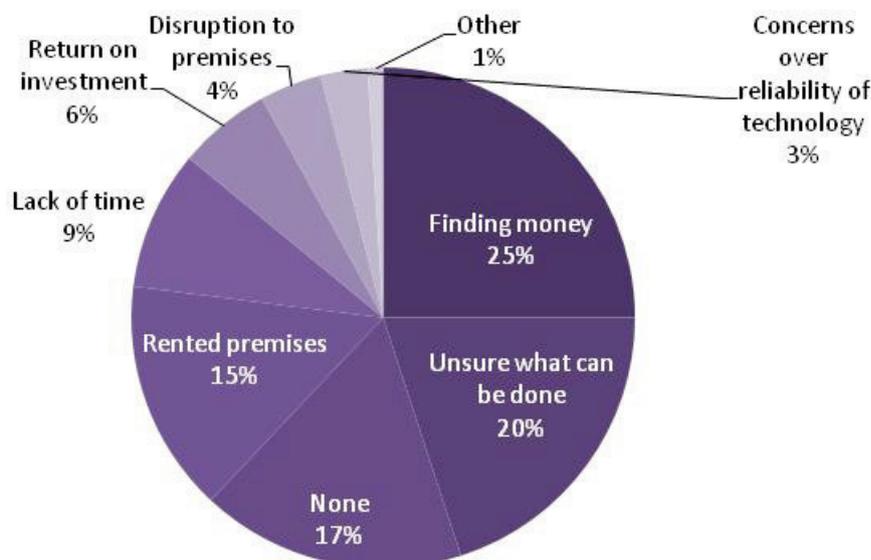


Figure 25: Most important barriers to further lighting action (n=333, N=2,644,815)

'Other' principal barriers included planning permission, lack of suppliers, uncertainty of how to implement measures and employee engagement.

30% of sites, before prompting, could not think of any barriers to taking action on lighting. After prompting, 57% of this group still maintained this was the case.

24% of rented premises cited their rented situation as their main barrier.

The principal barriers cited by respondents (broken down by tenure / bill paying status) were as follows:

%	Own premises and pay bills	Rent premises and pay bills	Rent premises; do not pay bills
Finding money	34	23	6
Unsure what can be done	29	15	9
No barriers	17	19	8
Rented premises	0	15	54
Lack of time	2	18	1
Return on investment	6	6	2
Disruption	2	2	19
Other	10	2	1

Table 5: Breakdown of the most important motivations to taking lighting action by tenure / bill paying status (n=333, N=2,644,815)

7.2 Heating: cited barriers

The following chart shows the extent to which different barriers were mentioned without prompting or selected once prompted:

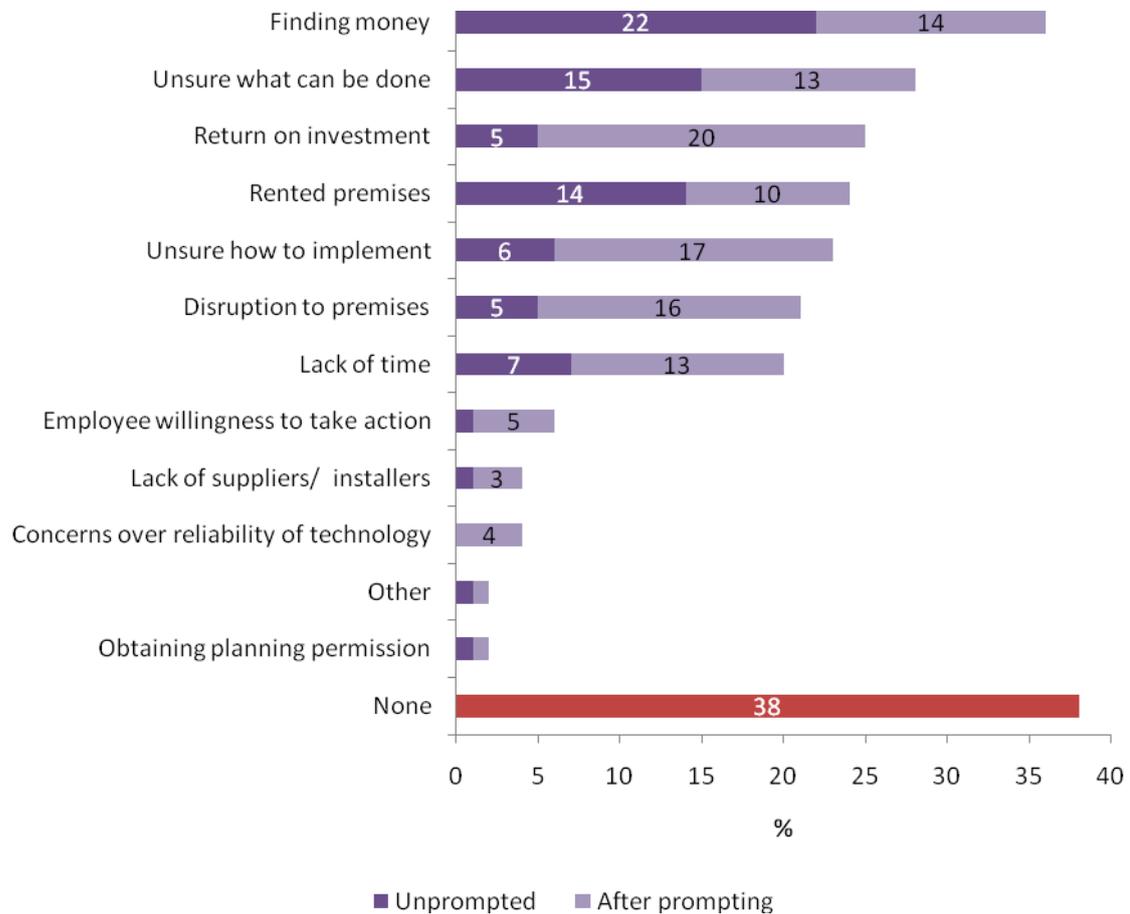


Figure 26: Extent to which different barriers are mentioned in preventing further action on heating (n=333, N=2,644,815)

Where respondents had selected barriers (either prompted or unprompted) they were asked which of these was the principal barrier to taking action. The following chart shows the barriers selected as most important by respondents when considering taking further heating action:

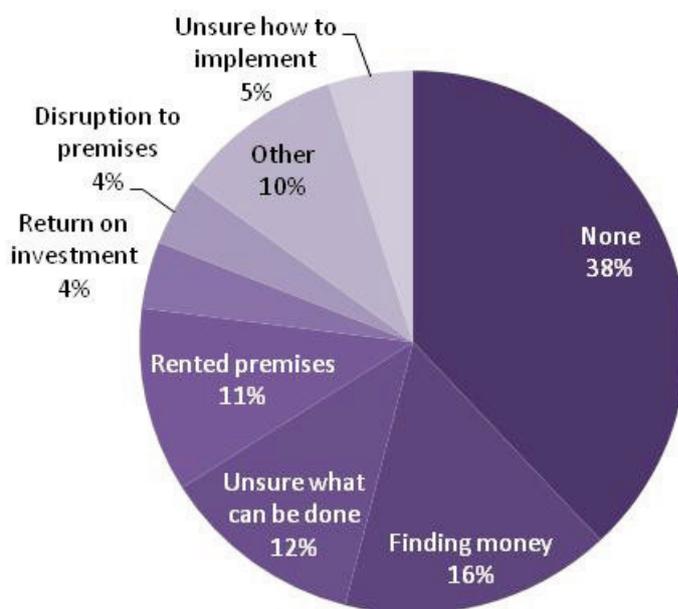


Figure 27: Most important barriers to further heating action (n=333, N=2,644,815)

'Other' principal barriers included lack of suppliers, employee engagement, and concerns over measure reliability.

53% of sites, before prompting, could not think of any barriers to taking action on heating. After prompting, 72% of this group still maintained this was the case.

The principal barriers cited by respondents (broken down by tenure / bill paying status) were as follows:

%	Own premises and pay bills	Rent premises and pay bills	Rent premises; do not pay bills
Finding money	23	15	2
Unsure what can be done	14	14	1
No barriers	31	51	13
Rented premises	0	13	39
Lack of time	2	1	0
Return on investment	6	3	4
Disruption	9	1	3
Lack of suppliers / installers	0	0	17
Other	15	2	21

Table 6: Breakdown of the most important motivations to taking heating action by tenure / bill paying status (n=333, N=2,644,815)

7.3 Insulation: cited barriers

The following chart shows the extent to which different barriers were mentioned without prompting or selected once prompted:

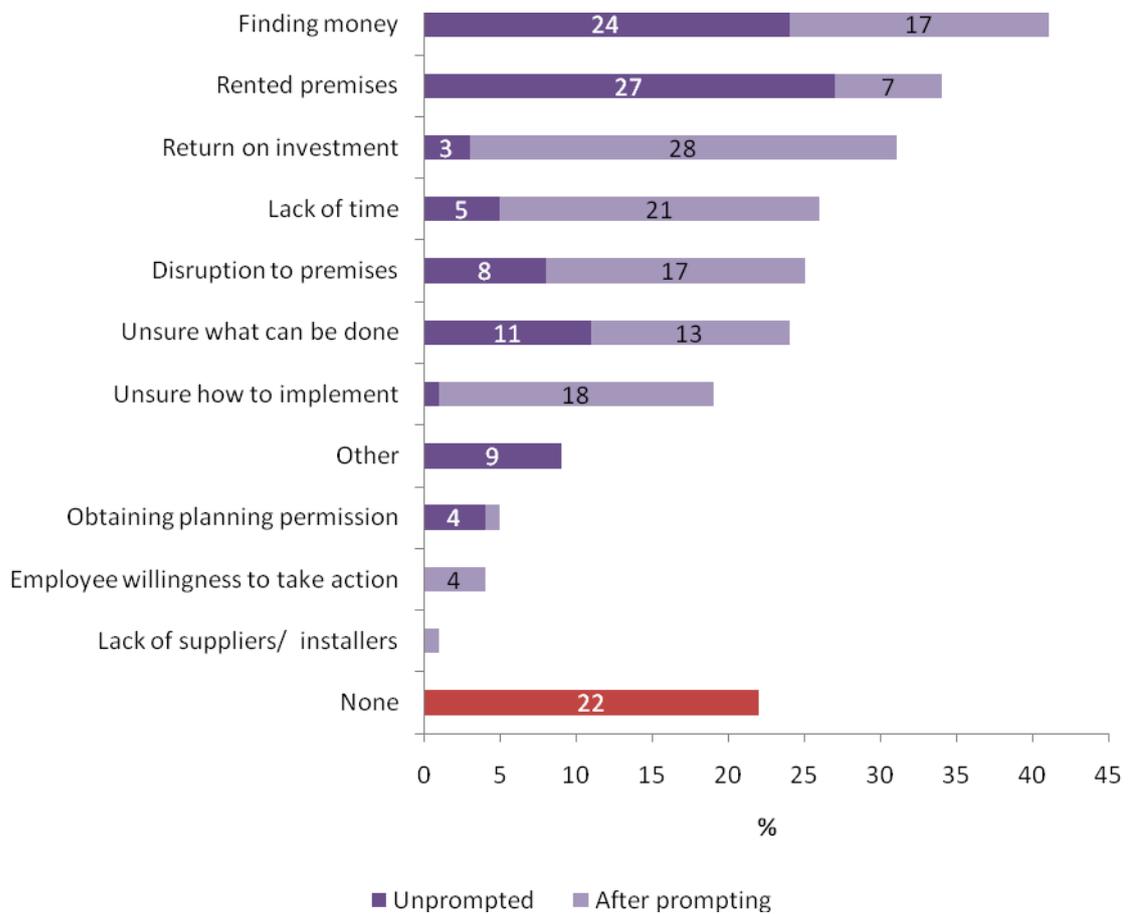


Figure 28: Extent to which different barriers are mentioned in preventing further action on insulation (n=333, N=2,644,815)

Where respondents had selected barriers (either prompted or unprompted) they were asked which of these was the principal barrier to taking action. The following chart shows the barriers selected as most important by respondents when considering taking further insulation action:

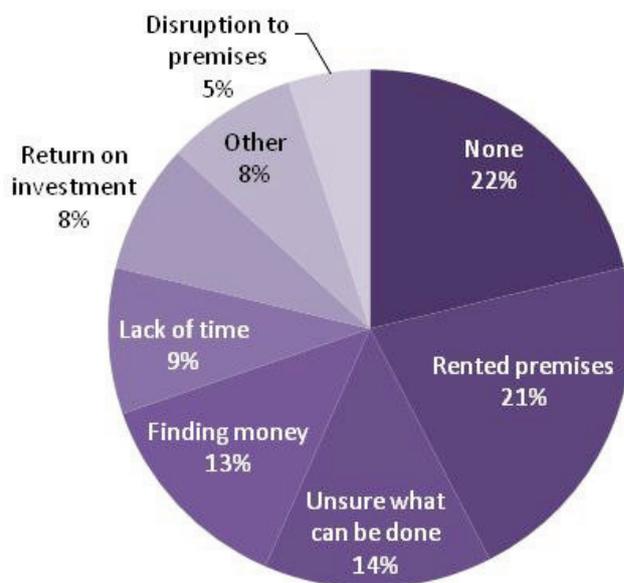


Figure 29: Most important barriers to further insulation action (n=333, N=2,644,815)

Being in rented premises was the strongest barrier to action for insulation. 'Other' principal barriers included lack of suppliers, employee engagement, and uncertainty of how to implement measures.

35% of sites, before prompting, could not think of any barriers to taking action on insulation. After prompting, 48% of this group still maintained this was the case.

The principal barriers cited by respondents (broken down by tenure / bill paying status) were as follows:

%	Own premises and pay bills	Rent premises and pay bills	Rent premises; do not pay bills
Finding money	22	9	2
Unsure what can be done	21	12	2
No barriers	22	14	46
Rented premises	0	33	38
Lack of time	2	16	0
Return on investment	16	2	7
Disruption	9	3	3
Other	8	11	2

Table 7: Breakdown of the most important motivations to taking insulation action by tenure / bill paying status (n=333, N=2,644,815)

36% of rented premises cited their rented situation as their main barrier. This was a higher proportion than for lighting or heating, probably due to the fact that insulation activity is significantly more disruptive to the property and more likely to be the subject of landlord prohibitions.

7.4 Fuel efficiency: cited barriers

The following chart shows the extent to which different barriers were mentioned without prompting or selected once prompted:

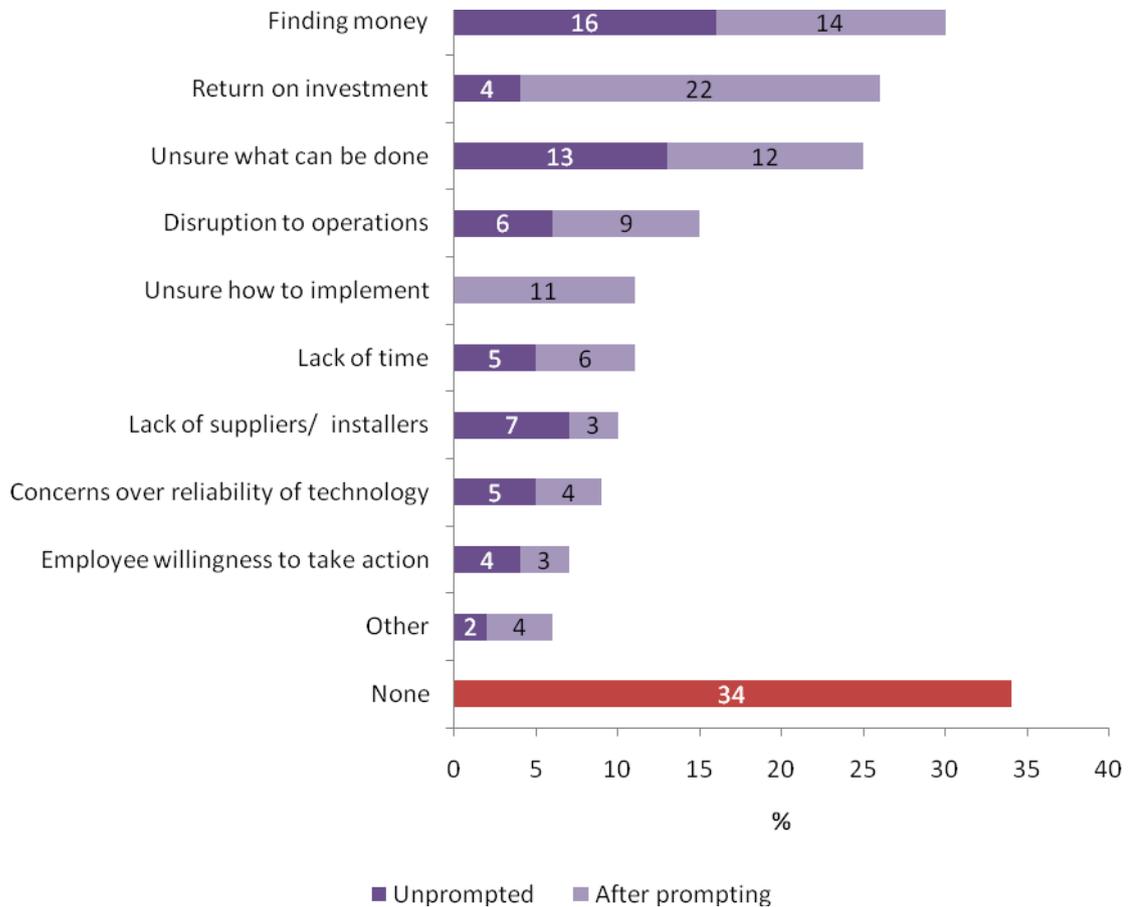


Figure 30: Extent to which different barriers are mentioned in preventing further action on fuel efficiency (n=257, N=3,876,187)

Where respondents had selected barriers (either prompted or unprompted) they were asked which of these was the principal barrier to taking action. The following chart shows the barriers selected as most important by respondents when considering taking further fuel efficiency action:

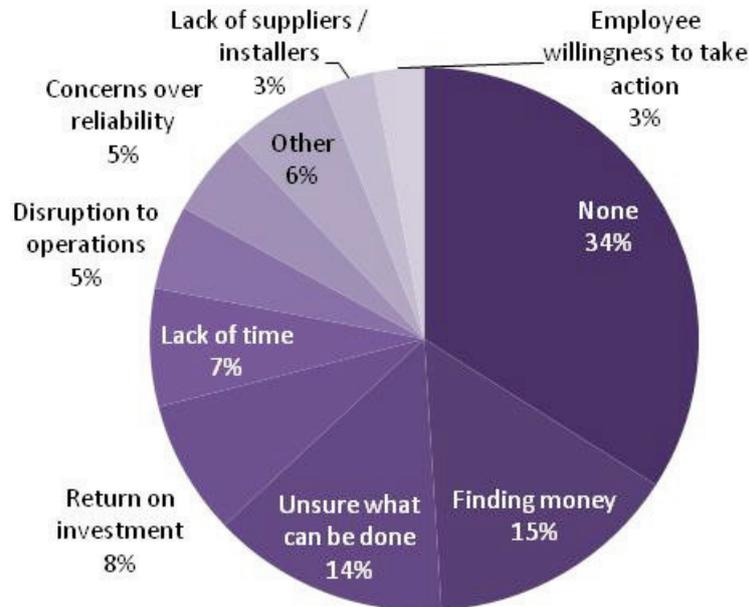


Figure 31: Most important barriers to further fuel efficiency action (n=257, N=3,876,187)

33% of sites, before prompting, could not think of any barriers to taking action on insulation. After prompting, 74% of this group still maintained this was the case.

7.5 Summary of barriers and principal barriers by measure

The following table shows the five most commonly selected barriers and five most commonly selected principal barriers by measure type. The table excludes 'none' responses and %s of those asked are shown in brackets:

LIGHTING		HEATING		INSULATION		FUEL EFFICIENCY	
Barrier	Principal barrier	Barrier	Principal barrier	Barrier	Principal barrier	Barrier	Principal barrier
Money (51)	Money (25)	Money (36)	Money (16)	Money (41)	Rented premises (21)	Money (30)	Money (15)
Unsure what to do (49)	Unsure what to do (20)	Unsure what to do (28)	Unsure what to do (12)	Rented premises (34)	Unsure what to do (14)	Return on Investment (26)	Unsure what to do (14)
Return on Investment (39)	Rented premises (15)	Return on Investment (25)	Rented premises (11)	Return on Investment (31)	Money (13)	Unsure what to do (25)	Return on Investment (8)
Time (36)	Time (9)	Rented premises (24)	Unsure how to implement (5)	Time (26)	Time (9)	Disruption (13)	Time (7)
Rented premises (33)	Return on Investment (6)	Unsure how to implement (23)	Return on Investment (4)	Disruption (25)	Return on Investment (8)	Unsure how to implement (11)	Disruption (5)

Figure 32: Table of most common barriers by measure type

The table shows that money is the predominant barrier across all measure types. Section 8 explores the extent to which sites have actually considered whether they need money.

The table also shows that only seven barriers feature at all in any of the top five lists for any measure type.

This leaves out issues such as supplier / installer availability. These barriers tended to be cited by those that had either taken some action in the area, or were planning to do so, indicating that the reason for fairly low mention of them may be due to the fact that many sites have not progressed to the stage of implementing complex measures which require installers.

Commercial sites were more likely to cite lack of knowledge as to what could be done as a principal barrier, whilst industrial sites were more likely to cite a lack of return on investment as a principal barrier across measure types. Industrial units were more likely to cite lack of money as a barrier to action for all measures aside from insulation.

Return on investment and uncertainty on how to implement measures were the two measure most often selected by respondents once measures were prompted to them. They did not seem to be barriers that were immediately obvious to respondents, but once prompted were recognised by a large proportion.

8 Exploration of claimed principal barriers

This section reviews the barriers most commonly cited by respondents across all measure types, exploring and critiquing these in more depth and highlighting the support that respondents felt would assist them to overcome the barriers.

8.1 No barrier

A significant proportion of respondents said that they did not have any barriers to taking action in areas. This seems unlikely unless they have taken every possible action, which also seems unlikely.

Large sites were consistently less likely to say this than small sites, across all measure types. In addition, sites where the respondent felt every possible action had been taken were the most likely group to state that they did not have any barriers.

Therefore, far from being pioneering sites who have taken all action, most of those stating that they do not have any barriers to action seem to be those identified in section 4.6, that have not investigated energy / fuel efficiency either because they see no value in doing so or believe they are doing everything practical.

For them, the barriers to anything beyond small scale action appear so great and so insurmountable, they are outside possibility. The sites appear to have effectively reduced their own horizons and positively assessed their progress within these. In these cases, 'there is nothing more I can do', really means 'there is nothing more I can do that is sensible / cost effective'.

8.2 Funding

8.2.1 Exploration of the barrier

Lack of money was the most commonly selected barrier and principal barrier for almost all measures. However, generally only around half of those who selected it as a barrier went on to say it was the main one.

6% of those that cited funding as a barrier to lighting action could not think of a specific lighting measure they would spend it on. One respondent even stated that "*until we have money to spend we wouldn't look into it.*"

Of the 94% that could cite ways the money would be spent, most said that they would need to replace the fittings to enable use of the energy efficient lighting they want. Some mentioned timer technology and solar powered lighting. Around a third of respondents stated that they would spend the money upon energy efficient bulbs, which would seem to indicate that most have reached this stage already, as they were aspiring to more complex and expensive measures. This may be due in part to the building regulations that govern certain building types.

Only 1% of those citing funding as a barrier to heating activity did not have a clear idea of how they would spend the money if they received it. Most respondents said they would upgrade their boilers, but other ideas included installation of renewable energy heaters, including biomass boilers, wood chip burners and ground source heat pumps.

All respondents who cited funding as a barrier to insulation, when probed, were aware of measures that they said they would spend money on. However, the measure most commonly mentioned was double glazing, which many sites consider to be an insulation measure. A smaller proportion of respondents also mentioned roof insulation, cavity wall insulation, and draught proofing.

Money for fuel efficiency measures would, sites claimed, be spent on more fuel efficient vehicle models.

8.2.2 Required support

Most respondents were unable to specify what government could do to help them to overcome a lack of money aside from generic demands for government grants, loans and tax relief mechanisms. Some respondents did not even expect that government could provide this. A more detailed suggestion was for government to tie funding / subsidy to specific measures (as has occurred recently with funding for insulation).

8.3 Uncertainty on what can be done

8.3.1 Exploration of the barrier

Almost as widespread a barrier as cost (across all measure types) was knowledge of what could be done.

Those that stated they had taken as much action as possible and those that had not investigated it were the most likely to mention this as a barrier without prompting. This implies that there are two groups facing this barrier; one that are starting from a position of complete ignorance on energy / fuel efficiency measures, and those that have taken some action already and do not know where to go from there.

8.3.2 Required support

Respondents generally suggested that site audits or assessments would be useful to highlight which measures would be appropriate and practical for their premises and what the likely savings would be.

8.4 Lack of time

8.4.1 Exploration of the barrier

Single employee sites were the most likely to cite lack of time as a principal barrier. Sole traders citing this barrier stated that they are "*busy all day long*" and "*cannot find the time.*" With other site size groups, there was a similar sentiment – other projects, or keeping the business going, were seen as priorities.

Lack of time is also linked to likelihood of a return on investment (for lighting, a quarter of those selecting either option selected both) i.e. if sites thought the measure worth investing resource in, they would do it.

When asked how they would spend the time if they had it to spare, most said they would use it to investigate what options were available. Some also said that they would spend time actually installing measures.

8.4.2 Required support

As most respondents did not feel ready to spend time investigating measures, most requests were either for funding (to bring in someone who could investigate and organise measures) or free site audits / advice (to focus down upon suitable measures and save time).

8.5 Return on investment

8.5.1 Exploration of the barrier

The majority of respondents citing return on investment as the principal barrier to action would be happy with a maximum of five years (and in some cases less) for payback.

8.5.2 Required support

With return on investment, respondents suggested similar financial packages as those who selected 'lack of money' as the principal barrier. These, respondents argued, would mitigate the risk of investment.

8.6 Disruption

8.6.1 Exploration of the barrier

Although one of the most commonly cited barriers overall, disruption was rarely the principal barrier selected by respondents.

However, respondents claimed that a variety of measures (in particular, work on ceilings and walls) would be disruptive, create discomfort, create loss of revenue through buildings being closed / only partly usable and possibly lead to permanent loss of customers.

Respondents envisaged that certain measures could mean noise, power cuts (or the need to keep power switched off), raised flooring, and reduced working spaces.

Regarding fuel efficiency measures, respondents argued that introduction of certain techniques or fleet renewal could disrupt operations and reduce customer service.

Larger sites and those in the wholesale / retail and hotel / catering sectors were most likely to see disruption as a barrier to action.

8.6.2 Required support

Most respondents were not sure what support could resolve the issue. Where suggestions were made, most said they would probably have to close the business whilst the work was carried out or do it over holidays.

Where respondents could think of external support that may help, suggestions included:

- Financial support – as with 'return on investment' fears, this could serve to mitigate the potential loss of revenue caused by disruption
- Free resource to conduct the work out of hours
- Support in re-coordinating transport whilst fuel efficiency measures are implemented

8.7 Uncertainty on how to implement measures

8.7.1 Exploration of the barrier

As with disruption, uncertainty on how to implement was rarely selected as a principal barrier, but was a commonly selected barrier across almost all the measures.

8.7.2 Required support

As with uncertainty on which measures to implement, respondents said that technical advice and site visits would be useful in establishing the individual aspects of their premises and therefore ensure that advice on how to install is tailored and appropriate. As

shown in section 4, site audits were the most effective form of advice in encouraging sites to subsequently take action.

8.8 Rented premises

8.8.1 Exploration of the barrier

Small sites (1-10 employees) seemed more concerned about this issue, with a greater proportion selecting this as the principal barrier to lighting and heating action than larger sites.

Where respondents stated that being in rented premises was the principal barrier to action, this was sometimes because they felt that the landlord would not approve changes. However, the impression often gained from respondents was that they had not actually asked their landlord for permission.

Some respondents in rented premises also argued that they were unwilling to invest because:

- a. They felt it was the landlord's prerogative / duty to invest in improvements
- b. They would not invest themselves because they may leave the property and not recover their investment

8.8.2 Required support

Respondents struggled to think of any support that could alleviate the barrier. Where they could, suggestions were either for support to help them negotiate with / make the case for action to their landlord, financial support to them to mitigate any revenue loss reservations the landlord may have, or (in a few cases) legislative moves to force landlords to take action / hand more freedom to tenants.

8.9 Other barriers

The following sub-section looks at barriers less commonly mentioned by respondents but which were still cited by a significant minority.

8.9.1 Sourcing suppliers / installers

Most respondents citing this as their principal barrier had not investigated the availability of suppliers or installers. This issue was most likely to be a principal barrier for fuel efficiency activity, where those citing it felt there was a lack of ranges of fuel efficient vehicles.

8.9.2 Reliability concerns

Some respondents had concerns about the quality of light produced by energy efficient lighting.

8.9.3 Planning permission

Although planning permission was rarely mentioned at all by respondents, on sites where it was an issue, it tended to be the principal one.

Planning permission was a particular problem for sites looking to take action when the premises is a listed building, which prohibits significant change to the buildings facade and sometimes its interior.

9 Conclusions and recommendations

- The research has shown that there are different groups of sites and different ways of examining the unconstrained population and their differing support needs. Some are positive and keen to take action, others see only barriers. Some are approaching energy efficiency action from a position of knowledge and recognising their limitations, some erroneously believe they are doing everything possible. Some sites have a large amount of control over and interest in their site (i.e. they own it and pay the utility bills), others do not.
- Small sites are the most polarised group; there are those that will act with no prospect of a swift return on investment because they are not financially motivated; some others are less sophisticated on energy / fuel efficiency or are not interested in it at all. There are opportunities to help these sites; however, though they are a large group (in terms of number of sites), their CO₂ impact (and potential to save) may be fairly low.
- The two principal barriers for sites seem to be lack of finance and a lack of knowledge as to what can be done. Different types of site need different packages. For example, sites that have not taken or investigated action may need incentives to identify measures carrying large savings, or advice on appropriate measures for their site. Sites that have already taken a lot of action may know what else could be done, but need technical advice or grant funding to make it cost effective.
- Businesses ultimately wish to remove financial risk and hassle from the process of taking energy efficiency action. This means providing, advice on what can be done, reassurance on feasibility, and finance packages to help them to identify, plan, implement and fund action.

9.1 Funding

- Although the request can be a knee-jerk response from sites, lack of capital to invest does seem to be a key barrier to action for the majority of sites. Most sites requesting funding do seem to have thought about what they would spend money on. Return on investment is also important. Many other barriers - e.g. lack of time and disruption - also link back to money worries.
- Funding mechanism possibilities include:
 - PAYS: although no sites mentioned the Pay As You Save concept, this would reduce risk and provide up-front capital.
 - Warm Zones: could be extended to industrial estates, retail parks or offices
 - ESCOs: Energy Service Companies could assist in advice provision and measure identification as well as identifying and delivering finance packages
 - Tax incentives: these could be focused on particular high-saving measures
- Financial packages could be effective to help pioneering sites take high-saving action which is not financially viable.

9.2 Advice on measures and feasibility

- As well as needing to know what can be done, many sites need to be sure that their investment will make a return.
- Site visits appear to be effective in encouraging action and could be effective in giving ideas and resolving implementation difficulties, as uncertainty in these areas is substantial. This would require a continuation of existing policy instruments (e.g. funding for Carbon Trust site audits).
- However, site audits are an expensive approach and it would not be feasible for all sites to receive them. A cheaper and potentially equally effective approach could be provision of on-line self-assessments / toolkits, whereby businesses could enter site information and receive information on appropriate measures and likely savings.

9.3 Non-legislative pressure

- Very few sites mentioned customer requirements as a motivation to action. This could imply that businesses don't care what their customers say, or could imply that no customers are making demands. Supply chain requirements for efficiency behaviour is being led by public sector contracts and some large high-profile businesses, but is limited and may not reach a large number of smaller sites. Supply chain policies are currently not widespread enough or not specific enough to make businesses change behaviour, but there is potentially a big opportunity for influencing change through this mechanism.
- Though less so for small sites, image and public perception is important to some sites. A national accreditation scheme could be effective. Although public engagement may be difficult to garner (e.g. members of the public care little about Investors in People when buying food or clothes). However, an accreditation that encapsulates a formalised set of measures or behaviours or HEC / EPC rating (it could have different levels to attain) could form a national standard for supply chains to specify in contracts.

9.4 Addressing rented sites

- Landlords tend to be the point of leverage when encouraging activity in rented premises, though tenants can be duplicitous in citing landlord prohibition when the tenant has neither asked nor indicated interest in this area.
- If sites don't pay for bills, they may not need to be engaged at all and efforts should be targeted at landlords; they would save bill money and could maintain the same level of rent.
- Where tenants do pay bills, the landlord will need to recognise benefit to themselves of investing and this may be in the form of increased rent. Tenants may need convincing of the need to pay the landlord more (goes back to the need

to demonstrate savings clearly). Longer tenures are more likely to create tenant willingness to invest in action if landlords allow.

- An incentivisation scheme for landlords could also be effective. For example, commercial EPCs could be invested with more importance through corporation tax / council tax rates being based on the EPC rating.

9.5 Legislative pressure

Legislative pressure already exists to some degree for certain types of building through building regulations.

Further / wider legislation requiring instalment of energy efficiency measures and adoption of fuel efficient activity could be effective. Our research in areas such as adoption of health and safety measures shows that many businesses want a legislative framework which ensures a level playing field i.e. they can be reassured that they are not being financially penalised for trying to go above and beyond legislation; all their competitors will have to do the same.

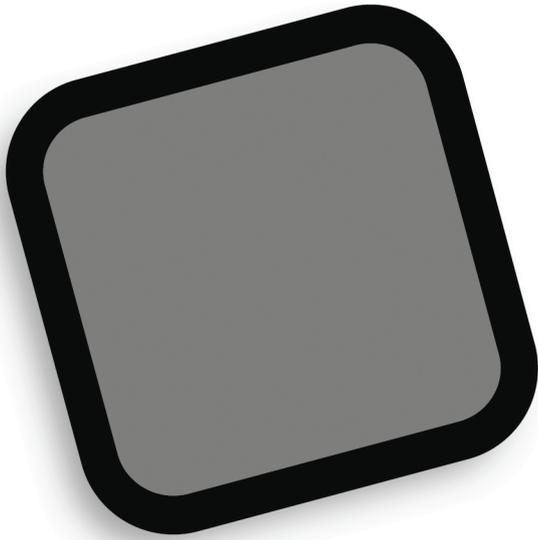
On the other hand, some businesses object to increased legislation on the grounds that the businesses which abide by the new legislation may suffer increased costs and reduced profitability, whilst 'less honest' competitors do not bother and gain a commercial advantage. Whilst this is an issue for law enforcement rather than DECC policy development, it is important to consider this strand of thought in the business community.

In addition, legislation is an approach which does not sit well with a sector that complains of being over-regulated. The fiscal methods suggested above may be an equally effective method of inspiring activity without carrying the opprobrium of regulation e.g. the tax on EPC rating would effectively be a fine or penalty for poor energy efficiency but may not be perceived as such.

9.6 Recommended further research

There are some clear issues and some theoretically sound opportunities to address them. Qualitative and / or focus group research should be used to test the feasibility of measures. These could be organised on the basis of barriers cited by respondents and would serve to:

- gauge initial business reaction to the propositions
- follow the logic of how the proposition would work in practice
- explore potential challenges and how these might be overcome (e.g. through delivery of multiple interventions).



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