SPEEDIER

SME Program for Energy Efficiency through Delivery and Implementation of EneRgy Audits

D2.3 – REPORT ON FINDINGS FROM SURVEYS OF BUSINESSES PARTICIPATING IN SPEEDIER

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This document is the report associated with Deliverable 2.3 'Report on findings from surveys of businesses participating in SPEEDIER'. It contains a summary of responses received from the SMEs that participated in the SPEEDIER online survey for SMEs and the other stakeholders that participated in the SPEEDIER online survey for stakeholders. The report details the key results from the surveys, outlines what the results mean for SPEEDIER and draws out the key learning points that will be taken forward into the rest of the project. Additional information can be sought from the coordinator.

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1 Executive Summary

SPEEDIER is a highly innovative *one-stop-shop solution* that applies an integrated approach to energy management, providing information, advice, capacity building, energy auditing, financing, as well as implementation of energy efficiency solutions and monitoring of impacts. SPEEDIER aims to deliver a self-financing, outsourced energy management service with much benefit to SMEs, enabling them to implement energy conservation measures (ECMs) and also access the energy services market. The service will be available via energy consultants, auditors and experts (SPEEDIER Experts) and will facilitate the uptake of energy audits, and the subsequent implementation of energy efficiency measures in SMEs.

SPEEDIER will target groups of SMEs in 4 EU pilot regions:

1) In **Spain,** we will test a location based approach, engage with SMEs based at a single business park to demonstrate the advantages of clustering SMEs to give them better access to the economies of large scale projects;
2) In **Ireland** and **Romania,** SMEs in the manufacturing and hospitality sectors respectively will be approached to test a sector-based approach to service delivery;
3) In **Italy**, a more general approach of accessing SMEs from any sector via ESCOs will be tested.

In order to fully understand the current market conditions and any factors that may affect the way that SPEEDIER is deployed in each pilot region two online surveys were undertaken in each pilot country: one for SMEs and another for other stakeholders. The aim of this study was to understand the market, including the drivers and barriers that could impact on the level of uptake of energy audits and subsequent implementation of energy efficiency measures, e.g. regulatory drivers, financial or behavioural barriers to uptake (both real and perceived). The insights provided by the survey results were intended to be used to refine the SPEEDIER Service offering in each country to ensure that it is (a) needed; (b) useful; and (c) tailored to the conditions in each market. This will maximise the chances of implementing a successful project with high impact.

In total, 84 SMEs and 91 stakeholders responded to the online survey from all the pilot countries. The breakdown of participants based on location is detailed below in Table 1.

Table 1: Online Survey Participants in Each Pilot Country

	Number of participants				Total
	Ireland	**Italy**	**Spain**	**Romania**	
SME survey	20	20	21	23	84
Stakeholder survey	27	20	24	20	91
Total	47	40	45	43	175

The survey results indicate that there are many similarities between the pilot regions. For example, the majority of SMEs do not have a dedicated Energy Manager, do not have an energy policy and have not set any targets for reducing energy consumption. This confirms that energy efficiency is a low priority for SMEs compared to other factors relating to running

their business. Despite the requirement in Article 8 of the Energy Efficiency Directive for Members States to implement support schemes that encourage SMEs to undertake energy audits and implement the recommended energy saving measures, most SMEs surveyed in all pilot regions have not had an energy audit in the last 5 years. In addition, most energy experts do not receive any kind of local or national government support to deliver energy audits or other energy efficiency support services. These results indicate that such support schemes either do not exist, are ineffective or are not widely known and show that Member States still need to do more to engage and activate the SME market to take action on energy management.

Despite the low proportion of SMEs undertaking energy audits, most SMEs surveyed have still implemented some kind of Energy Conservation Measure (ECM). The most commonly deployed ECM is upgrading the LED lights and this is most likely due to the ease of implementation with little disruption to the business, the prevalence of LED lighting installers around Europe and the fast payback period associated with lighting upgrades. However, the proportion of SMEs that have implemented any ECMs other than lighting is much lower. There could be a number of reasons for this including lack of knowledge on what to implement or how to procure these technologies, lack of finance, and the low priority nature of energy within the business. This shows that there is a great need across the pilot regions for a service like SPEEDIER that can assist and guide SMEs through the implementation of more complex ECMs for example, those relating to optimisation of heating and cooling equipment, variable speed drives, as well as upgrades to more efficient technologies and building fabric upgrades.

An additional point of note is that few SMEs have undertaken any kind of staff awareness programme relating to energy efficiency. This, coupled with the fact that a significant proportion of SMEs are paying more than €0.15 per kWh for electricity, presents a number of ‘quick wins’ for the SPEEDIER Expert. By switching to a cheaper energy tariff, many SMEs can make immediate financial savings, which can be ring fenced and used to build up a revolving energy efficiency fund that can be used to pay for the services of the SPEEDIER Expert or low cost ECMs. In addition, further savings can be made by delivering a staff awareness programme that will accelerate the build-up of the revolving energy efficiency fund and free up capital for implementation of further ECMs, all with little intervention from the SPEEDIER Expert.

Despite these similarities, the results from the survey also show that there are considerable differences between the pilot countries and indicates that the SPEEDIER Service should be tailored accordingly to meet the needs of each market to ensure success. For Irish respondents, the main challenge is their lack of knowledge on which measures are the most appropriate for their business and how to procure them. In contrast for Italian, Spanish and Romanian SMEs, lack of finance is perceived as the main barrier. Having no control over the building to enable the implementation of ECMs is also a significant challenge for Spanish and Romanian SMEs, reflecting the fact that in Spain many businesses are renting their premises and in Romania there could be stricter controls on allowable building upgrades. It is therefore important that the SPEEDIER Service is tailored to the requirements of each country to maximise uptake.

A further critical difference between the pilot regions for SPEEDIER is the attitudes of SMEs towards outsourcing energy management to an external SPEEDIER Expert. In Ireland, Italy and Romania, most businesses stated that they would be happy to outsource energy

management but in Italy respondents would prefer the service to be free of charge whilst in Romania most respondents would be happy to pay for the service. In contrast, a significant proportion of Spanish respondents would not be happy to outsource energy management. The reason for the differences between the countries is unclear, but the results show that the SPEEDIER Service will need to be presented differently to clients according to their country of operation.

The survey results also exposed differences in the perception of the main barrier to implementation of ECMs for SMEs compared to energy experts and other stakeholders. For example, in Ireland, the most common barrier cited by SMEs was lack of knowledge on what to implement and how to procure, but most stakeholders thought that lack of finance was the main barrier. Similarly in Spain, the most common barrier cited by SMEs is lack of finance while energy experts cited the low priority of energy efficiency as the main barrier. These differences in perception are important and should be included in the SPEEDIER Training for Experts because it is imperative to the success of the project that SPEEDIER Experts fully understand the SME perspective (what motivates them, what do they consider to be a barrier) in order to be able to engage them by offering the most appropriate assistance.

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2 Introduction

2.1 Background Information

SPEEDIER is a highly innovative *one-stop-shop solution* that applies an integrated approach to energy management, providing information, advice, capacity building, energy auditing, financing, as well as implementation of energy efficiency solutions and monitoring of impacts.

SPEEDIER delivers a self-financing, outsourced energy management service with much benefit to SMEs, enabling them to implement energy conservation measures (ECMs) and also access the energy services market. The service will be available via energy consultants, auditors and experts and will facilitate the uptake of energy audits, and the subsequent implementation of energy efficiency measures in SMEs. The service also streamlines the process of identifying and implementing energy conservation measures. This is achieved through outsourcing the time-consuming energy management activities that require technical expertise to a SPEEDIER expert. It includes the activities of performing an energy audit, training staff in good energy practices, obtaining quotes from suppliers for implementation of energy saving measures, project managing the installation, as well as measuring and verifying the savings. As such, SPEEDIER makes significant inroads to help remove barriers, especially the lack of in-house expertise, lack of time, lack of resources and conflicting priorities that would prevent SMEs from undertaking energy audits and acting on the recommendations.

A key innovation upon which the SPEEDIER Service is founded, is the self-financing mechanism. This novel funding mechanism works by implementing simple no-cost actions first (e.g. raising energy awareness of staff or switching to a cheaper energy supplier), ring fencing the savings from these actions and using them to pay for low, medium or high cost energy efficiency measures and the continued services of the SPEEDIER Expert. The iterative cycle of implementing energy conservation measures, determining the savings against an agreed baseline, ring fencing those savings and reinvesting them into additional measures is the core innovative principle of the SPEEDIER Service that can be applied to both SMEs and large enterprises. Thus, a revolving energy efficiency fund is created for each participating business, removing any barriers relating to lack of capital or lack of access to finance and allowing deep energy efficiency upgrades to be funded.

SPEEDIER will target groups of SMEs in 4 EU pilot regions:

4) In **Spain,** we will test a location based approach, engage with SMEs based at a single business park to demonstrate the advantages of clustering SMEs to give them better access to the economies of large scale projects;
5) In **Ireland** and **Romania,** SMEs in the manufacturing and hospitality sectors respectively will be approached to test a sector-based approach to service delivery;
6) In **Italy**, a more general approach of accessing SMEs from any sector via ESCOs will be tested.

These pilots will be used to test the developed SPEEDIER Service through a number of iterative steps in the quest to create a fully functioning and self-sustaining service that can be rolled out across the EU.

2.2 Objective of the study

The objectives of this study are:

- To understand the market, including the drivers and barriers that could impact on the level of uptake of this program (e.g. regulatory drivers, real and perceived risks, financial or behavioural barriers to uptake).
- To obtain feedback from all the key actors and decision makers in the process to fully understand the reasons for low uptake of energy audits and implementation of energy efficiency measures.
- To determine the opinions and attitudes to energy auditing and the implementation of energy efficiency measures.

To achieve these objectives, we developed an online survey which was circulated to SMEs and stakeholders across the energy value chain. More details on the survey methodology are given in Section 3.

3 Methodology

To achieve the objectives described in section 2.2, two standard surveys were designed:

- A survey for SMEs and prospective participants in the SPEEDIER Service (described in more detail in section 3.2).
- A survey for other stakeholders in the energy efficiency value chain including energy auditors, energy consultants, energy managers, landlords, finance providers, and vendors of energy efficient technologies (described in more detail in section 3.3).

3.1 General survey design

A survey is a useful research method for collecting a large volume data from a group of respondents in a standardised way. The standardised question set makes it easy to compare results between groups and identify trends or common points of view among the sample of the population that was surveyed.

3.1.1 Question types, language and length

The two surveys developed used a combination of multiple-choice questions, (where the respondent could only select one option from the many presented), and multiple selection questions, (where the respondent could select several applicable answers from a predefined list). Restricting the choice of answers in this way allowed the results to be analysed and compared more easily. To ensure that the survey was as easy as possible to complete (and thus increase the response rate) it was not mandatory to answer all the questions. The survey was designed to take less than 10 minutes to complete and was available in the languages of the four SPEEDIER pilot regions: English, Spanish, Italian and Romanian.

3.1.2 Online platform

Both surveys were conducted online. Online surveys are generally quicker and easier for participants to complete, reach a wider audience and results are available immediately. Google Forms was chosen as the hosting platform for conducting the surveys because it is free to use and has no limits on the number of questions that can be asked or the number of responses that can be received. Google Forms also collates the results and displays different types of graphs based on the type of question being asked. IERC holds the Google account for SPEEDIER and managed both the set-up of the survey forms in this account in the four languages of the project, and the analysis of the survey responses.

3.1.3 Ethics

In order to comply with ethics requirements and General Data Protection Regulations (GDPR), personal information and IP address of the respondents were not collected. The first page of the survey included an information sheet, which informed the participants of the subject of the research, the organisations that are carrying out the study, how the data will be used and how the data will be stored. This study received Ethics Approval from the Social Research Ethics Committee at University College Cork.

3.2 Online Survey for SMEs

The survey questionnaire for SMEs had 23 questions categorised under 9 sections (2-10) related to business information, energy consumption, energy auditing and was designed to

capture the opinion of the SMEs regarding the drivers and barriers that impact the uptake of Energy Efficiency Measures by SMEs.

- **Section 1** was an information sheet, which informed the participants of the subject of the research, the organisations that are carrying out the study, how the data will be used and how the data will be stored.
- In **Section 2**, respondents were asked for basic information about their business including the country in which they are based, the approximate number of employees and approximate turnover.
- **Section 3** queried the respondents' awareness of energy usage in their business including questions on approximate annual energy consumption and annual energy cost.
- **Section 4** focused on energy management, and included questions on energy policy and management. This helped us understand the level of awareness of the organisation regarding the energy efficiency of their building and if energy efficiency was a priority.
- **Sections 5 & 6** related to energy audit findings, where relevant, and implementation of same.
- **Section 7, 8 & 9** queried the implementation of energy efficiency measures and the challenges and barriers which prevent businesses from implementing the recommended energy efficiency measures.
- **Section 10** assessed the knowledge and availability of funding instruments within or outside the organisation. This section helped us to gauge the readiness of the organisation to engage in the implementation of energy efficiency measures.

The online survey information sheet and questionnaire for SMEs is available in Annex 1 of this report.

3.3 Online Survey for Stakeholders

The survey was divided into 6 sections.

- **Section 1** was an information sheet, which informed the participants of the subject of the research, the organisations that are carrying out the study, how the data will be used and how the data will be stored.
- **Section 2** included questions about business's geographic location and main business activity to identity the role of stakeholder in the SPEEDIER Service value chain. These two questions were mandatory to answer.
- **Section 3** was for energy experts (energy auditors, energy managers, energy consultants and ESCOs).
- **Section 4** was for financiers.
- **Section 5** was for landlords.
- **Section 6** was for technology vendor and installers.

Depending on the role of the stakeholder, they were redirected to their respective section of the survey questionnaire. In each section, stakeholders were asked questions about their market share for SMEs, their working experience with SMEs, and key barriers preventing them from engaging with SMEs in regards to energy efficiency measures.

The online survey information sheet and questionnaire for stakeholders can be found in Annex 2 of this report.

3.4 Engagement Activities

The survey was live and accepting responses from 10th October to 18th November 2019 inclusive. The SPEEDIER team made use of existing links with local organisations to reach as many SMEs and energy experts as possible to promote the survey. In addition to this, the survey was also promoted in the following forums:

- SPEEDIER Newsletter
- Social Media Posts
- Networking Events
- Direct Contact (phone, email and face-to-face meetings)
- Engagement Events

Responses received from the survey questions helped us to gather information about SME's opinion towards energy auditing and the reasons for low uptake of the recommended energy efficiency measures within their business.

3.5 Target Response Rate

The targets for the response rates were as follows;

- **SMEs:** 20 responses from each of the 4 pilot countries (80 responses in total)
- **Other Stakeholders:** 20 responses from each of the 4 pilot countries (80 responses in total)

3.6 Limitations of the study

Online surveys are a useful tool in assessing the general opinions of the study group but they have a number of limitations which should be kept in mind when assessing the results.

- Online surveys provide an excellent indication of the general opinions in the study group but cannot provide detailed insights into the reasons behind why these opinions are held. For this reason, these online surveys have been supplemented with focus groups in each country which provide a forum for more detailed discussions and understanding of the deeper intricacies of the opinions in each country. The findings from the focus groups are discussed in detail in Deliverable 2.4 "Report summarising findings from stakeholder focus groups".
- The survey sample size is small in relation to the total number of SMEs in each of the pilot countries therefore the survey results can only give an indication of the trends among SMEs and energy experts. A larger sample size would be needed to verify the results obtained here.
- Individuals who complete voluntary online surveys are often those that are already interested in the subject of the survey or who have very strong opinions on the subject. This can introduce a degree of bias in the survey results that does not accurately represent the entire population.

- The online survey focussed on attracting respondents from the four pilot countries so these results may not accurately reflect the opinions of SMEs and energy stakeholders in other countries.

4 Online Survey for SMEs: Analysis

In this section, the key findings from the analysis of the responses to the online survey for SMEs is summarised. Where possible, the responses for each question have been presented in graphical form, broken down by country to highlight the differences between each geographical location. For each question, tables showing the raw data in numerical format are given in Annex 3 - Survey Results Tables.

4.1 Response Rate

The target response rate described in section 3.5 was achieved. A breakdown of the number of responses received in each pilot country for the survey of SMEs is given in Table 2.

Table 2: Survey response rates achieved by country

Country	SME Survey Responses
Ireland	20
Italy	20
Spain	21
Romania	23
Total	**84**

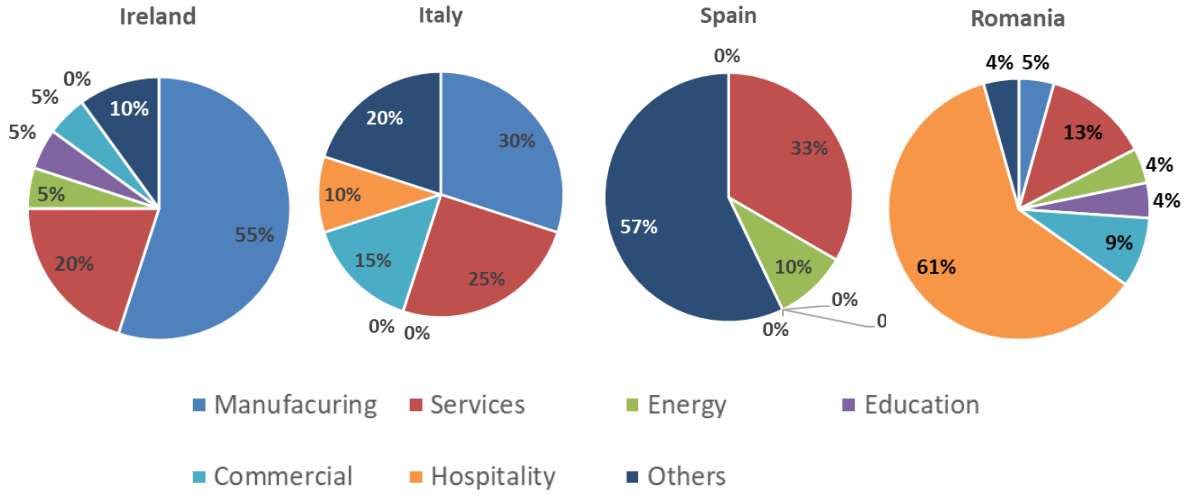
4.2 Mandatory Questions

Section 2 of the online questionnaire contained all the mandatory questions. These questions related to business sector, size and ownership of the business premises and were included to enable categorisation of, and to assist to identify possible biases in, the results.

4.2.1 Business Operating Sector

The first question asked was 'in which sector they are operating their business?' The graphical representation of the responses received is below. This data is also available in table form in Annex 3 - Survey Results Tables

Figure 1: In which sector does your business operate?

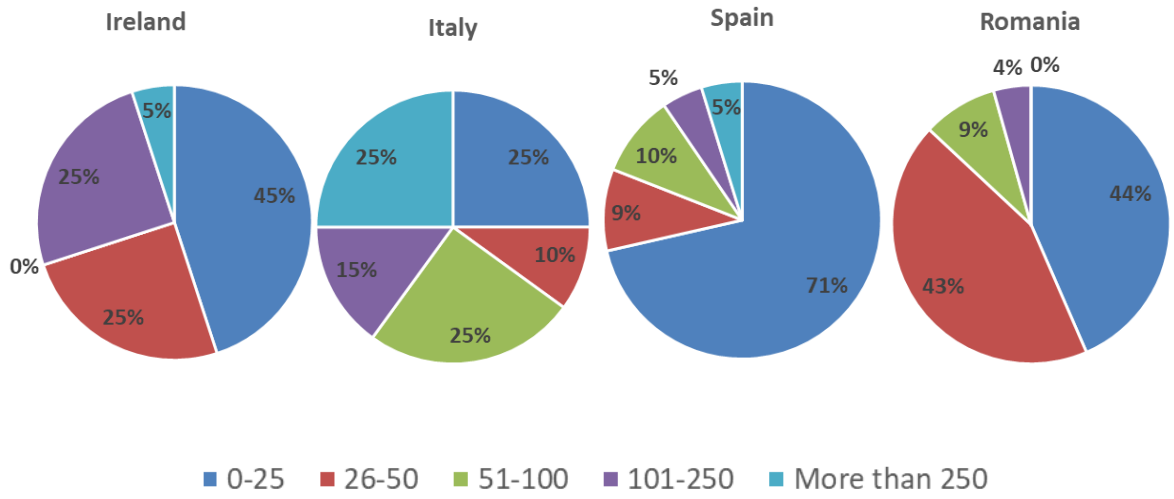


Of the SMEs that participated in the survey, the majority of SMEs in Ireland are operating in the manufacturing sector (55%). In Italy, the manufacturing (30%) and services (25%) sectors dominate while in Romania the majority of responses (61%) came from the hospitality sector). In Spain, 57% of respondents selected 'Other' and indicated a diverse range of sectors in the additional information box that included aerospace, telecommunication, agriculture, building automation, sports and sports management. This reflects the target sectors for each SPEEDIER pilot region, the specific networks that the pilot site leaders were able to access and the focus of the engagement activities undertaken in each country. It is important that the range of sectors represented in each of the pilot regions is considered during the development of the SPEEDIER Tool for Experts to ensure that the Energy Conservation Measures (ECMs) that are built into the tool include those that are most commonly recommended for each sector.

4.2.2 Number of Employees

The next question asked the approximate number of employees of each organisation. The graphical representation of the responses received is below. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 2: Approximate number of employees



In Ireland, Spain and Romania, the largest group of responses were from SMEs that employ less than 25 people. In Italy the survey responses were more evenly distributed between the SME size categories and, since 25% of respondents have more than 250 employees, indicates that several large enterprises also completed the survey. This indicates that the majority of participants in SPEEDIER are likely to be at the smaller end of the SME size scale and the SPEEDIER Service will need to be tailored accordingly to their needs.

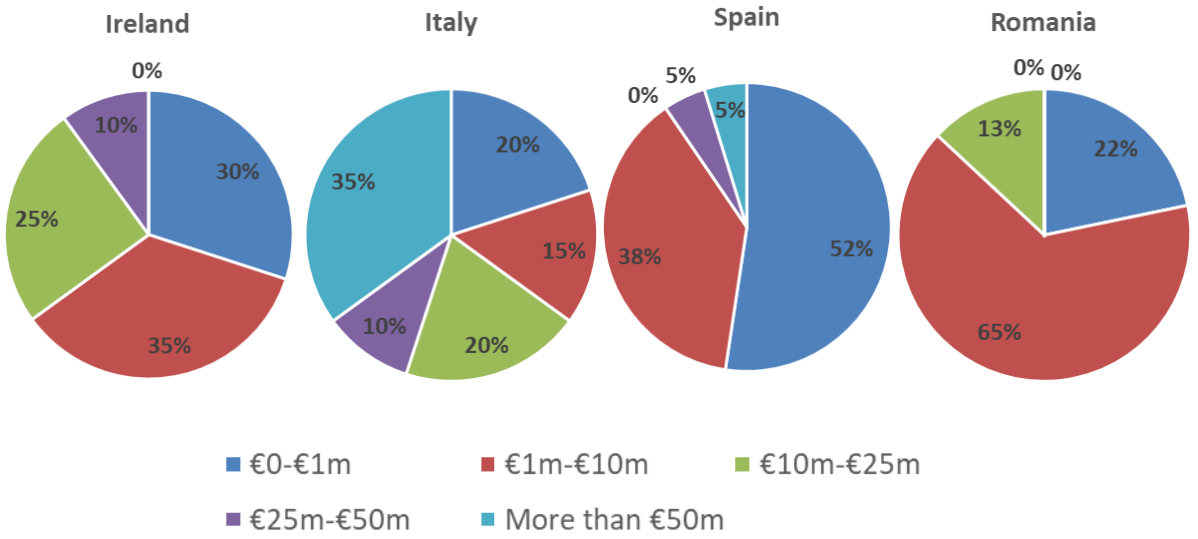
4.2.3 Previous Year Turnover

To further assess the size of the SMEs responding to the survey the next question asked for the approximate turnover in the last business year. The graphical representation of the responses received is below in Figure 3. This data is also available in table form in Annex 3 - Survey Results Tables.

The distribution of turnovers is varied between each country, however in general, it can be seen that the majority of respondents are from businesses with an annual turnover of less than

€10millon. The exception to this is Italy, where 35% of respondents have a turnover greater than €50million, indicating that the Italian sample included a number of large enterprises.

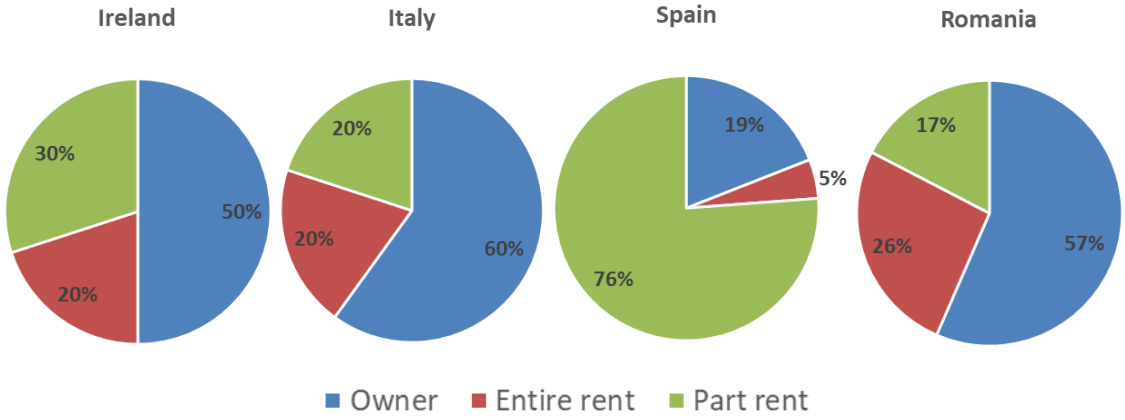
Figure 3: Approximate turnover (in Euros) of your business last year



4.2.4 Building Occupancy

In the final mandatory question, SMEs were asked whether their business premises is owned or rented. The graphical representation of the responses received is below. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 4: Which of these best describes the ownership of your business premises?



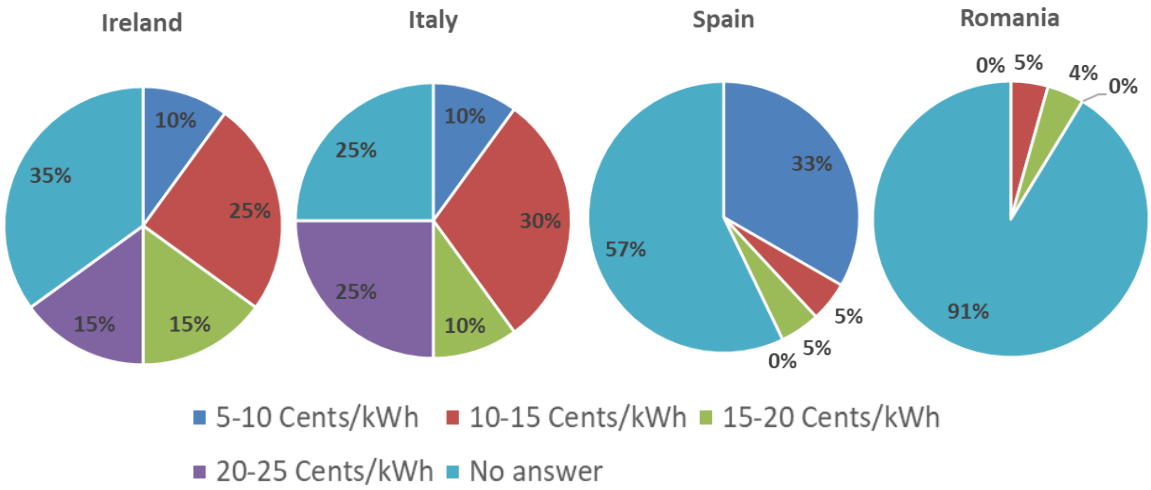
With the exception of Spain, more than 50% of respondents in all pilot regions are the owners of their business premises. This is a positive result for SPEEDIER as it means that most of the participants will have control of their building and will be able to take action to implement the recommended energy conservation measures without needing permission from a third party. In Spain, the majority of SMEs rent a part of the building, which is reflective of the nature of building occupancy found in the Cartuja Science and Technology Park, the focus of the Spanish pilot site. As the building manager (PCT) is a partner in the SPEEDIER consortium, there are no issues anticipated with SMEs lacking control of their building premises.

4.3 Optional Questions

4.3.1 Unit Cost of Energy

Two questions were asked to gauge the awareness of respondents of the unit cost of energy (electricity and natural gas), being consumed within their business. The graphical representation of the responses received is below. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 5: If you know it, please tell us how much your business pays per kWh of energy consumed for electricity (on average)



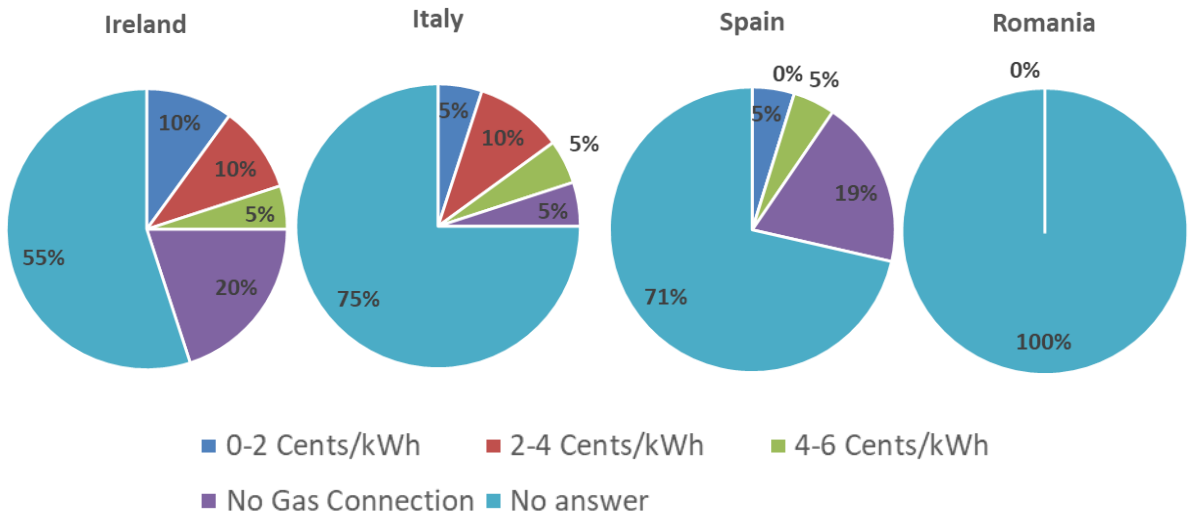
The results in Figure 5 show clear differences in knowledge of electricity unit rates between the pilot regions. In Spain and Romania, most respondents lack knowledge of the unit price of electricity as shown by the majority of respondents that gave no answer[1]. In Romania, the percentage is considerably high at 91%. This shows that there is good opportunity to increase the knowledge and awareness of the cost of energy through the SPEEDIER training and capacity building program, which will be delivered to the participating SMEs during WP4.

In Ireland and Italy, whilst most respondents know the unit cost of electricity, the range of prices is large with approximately one third of businesses paying more than €0.15/kWh. This shows that there is a good opportunity for financial savings to be made simply by switching energy tariff or supplier, which will provide some of the initial seed money into the SPEEDIER revolving energy efficiency fund.

Similarly, for unit rate of natural gas, most of the SMEs in all pilot regions choose not to answer[2] as shown in Figure 6. Interestingly, in Romania none of the 23 survey participants answered this question. Again, this shows a great opportunity for SPEEDIER training and capacity building program for organisations to include an awareness of the cost of natural gas.

[1, 2] Respondents in the 'No answer' category either selected the option multiple choice option 'Don't know' for this question or did not answer the question at all.

Figure 6: If you know it, please tell us how much your business pays per kWh of energy consumed for gas (on average)



4.3.2 Annual Energy Cost

SMEs were asked to estimate their annual spend on electricity and natural gas in order to gauge their knowledge and awareness of the cost of their energy consumption. This question also helped us to learn about the range in the level of spending on energy and can therefore give us an indication of the likely value of the revolving fund that can be generated through implementation of energy conservation measures. The graphical representation of the responses received is below: Figure 7 and Figure 8 show the estimated annual spend on electricity and gas respectively. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 7: If you know it, please tell us the approximate amount that your business spends annually on electricity

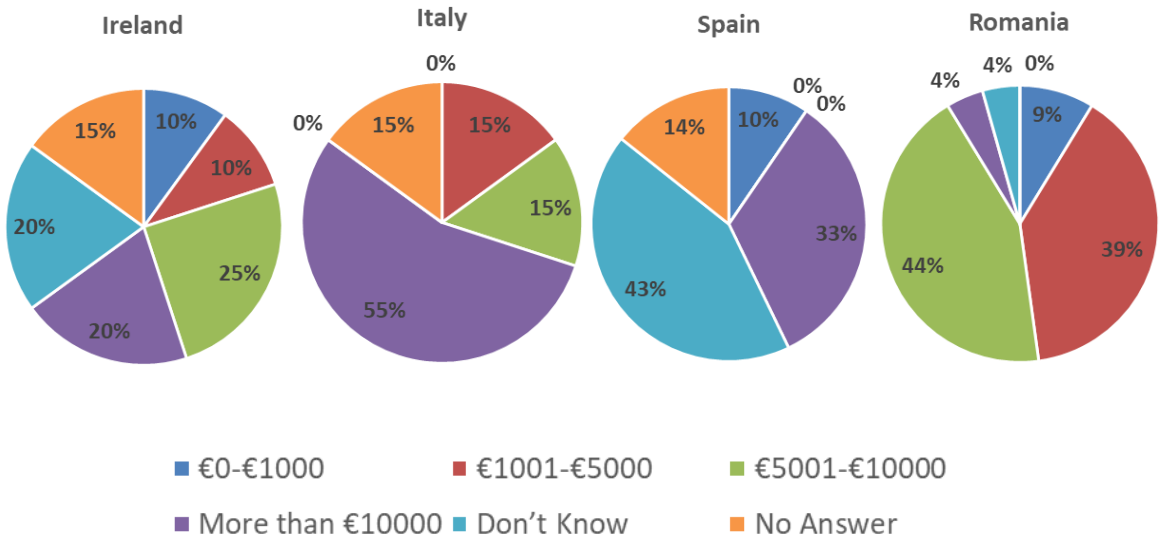
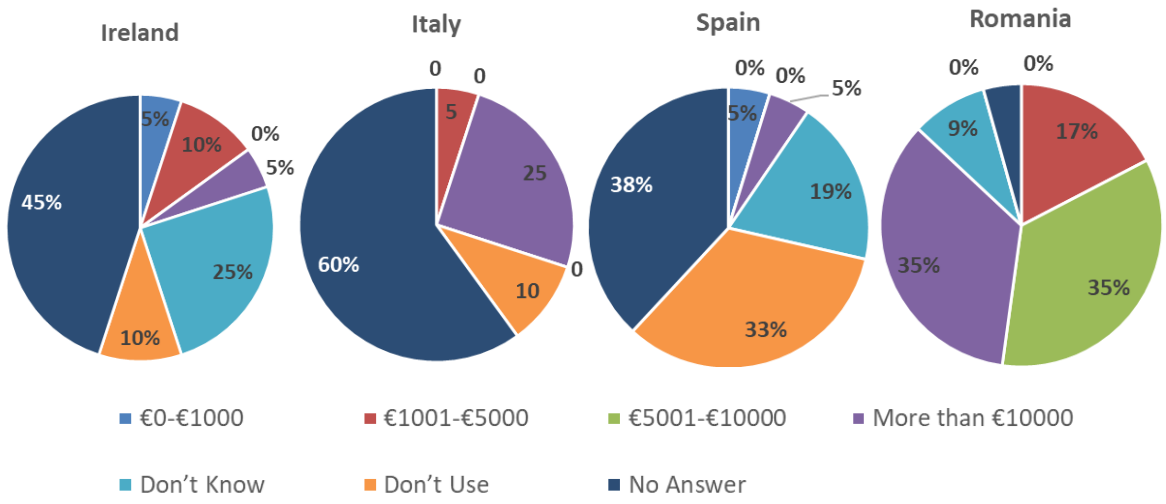


Figure 7 shows that the level of awareness of annual spend on electricity varies significantly between the countries. Only 4% of respondents in Romania stated that they didn't know their annual electricity spend compared to 43% in Spain and 20% in Ireland. The high proportion of respondents not knowing their electricity unit rate in Spain could be a reflection of the large proportion of respondents that stated that they rent part of a building, as it is likely that their energy costs are rolled up with the rent payments.

Comparing Figure 3 to Figure 7, the level of annual spending on electricity also seems to correlate somewhat to the turnover of the businesses that responded in each country. For example, in Italy 35% of respondents work for an organisation with a turnover of greater than €50million and this could account for the high proportion (55%) of organisations that spend more than €10,000 per annum on electricity. In Romania, most respondents are from businesses with a turnover in the middle of the SME range (€1-25million) and also have an annual electricity spend in the middle of the proposed range (€1000 to €10,000).

Figure 8: If you know it, please tell us the approximate amount that your business spends annually on natural gas



With the exception of Romania, most of the SMEs in the other pilot regions either did not answer or did not know the answer to the question regarding their annual spending for natural gas usage. This indicates a lack of awareness of annual spending on natural gas as source of energy and could relate to the relatively low cost of gas compared to electricity in most countries. Again this indicates an opportunity for the SPEEDIER training and capacity building program for organisations. In Romania, only 13% of respondents did not know or provided no answer on annual cost of gas to their business. This is surprising, since none of the respondents answered the question regarding the unit cost of gas.

Survey respondents were also asked to estimate annual spending on LPG and oil, but most businesses either don't use them as source of energy or don't know the annual cost.

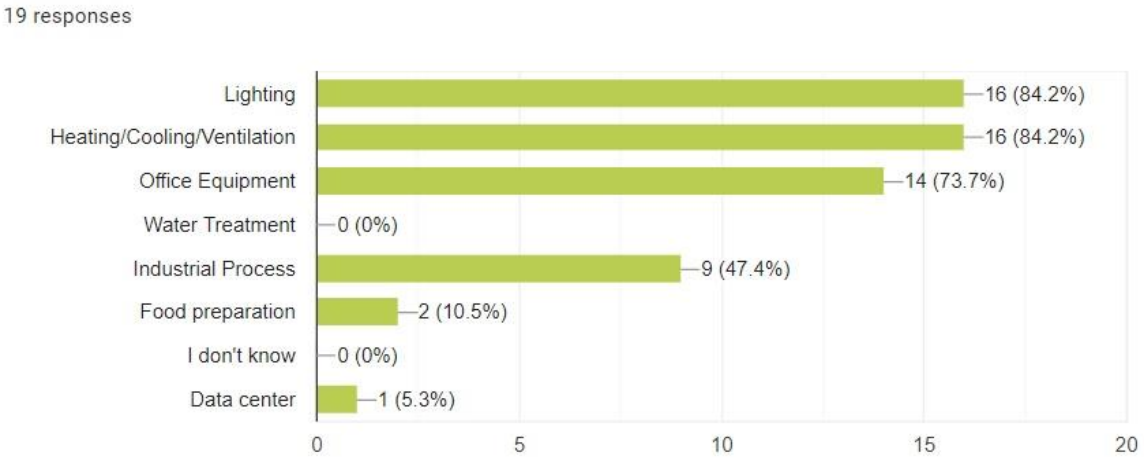
4.3.3 Uses of energy

Respondents were asked to select all the ways that energy is used in their business. As shown in Figure 9 most businesses stated that their main uses energy of energy are lighting, HVAC equipment and office equipment. Industrial processes are also a significant energy user in

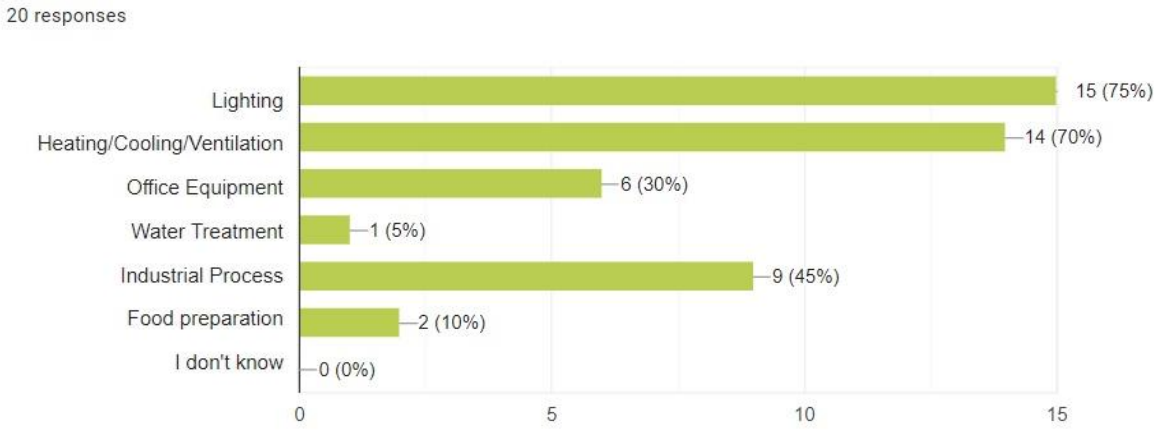
Ireland and Italy, which reflects the large proportion of businesses in the manufacturing sector in these countries as shown in Figure 1.

Figure 9: What are the main uses of energy use within your business?

Ireland

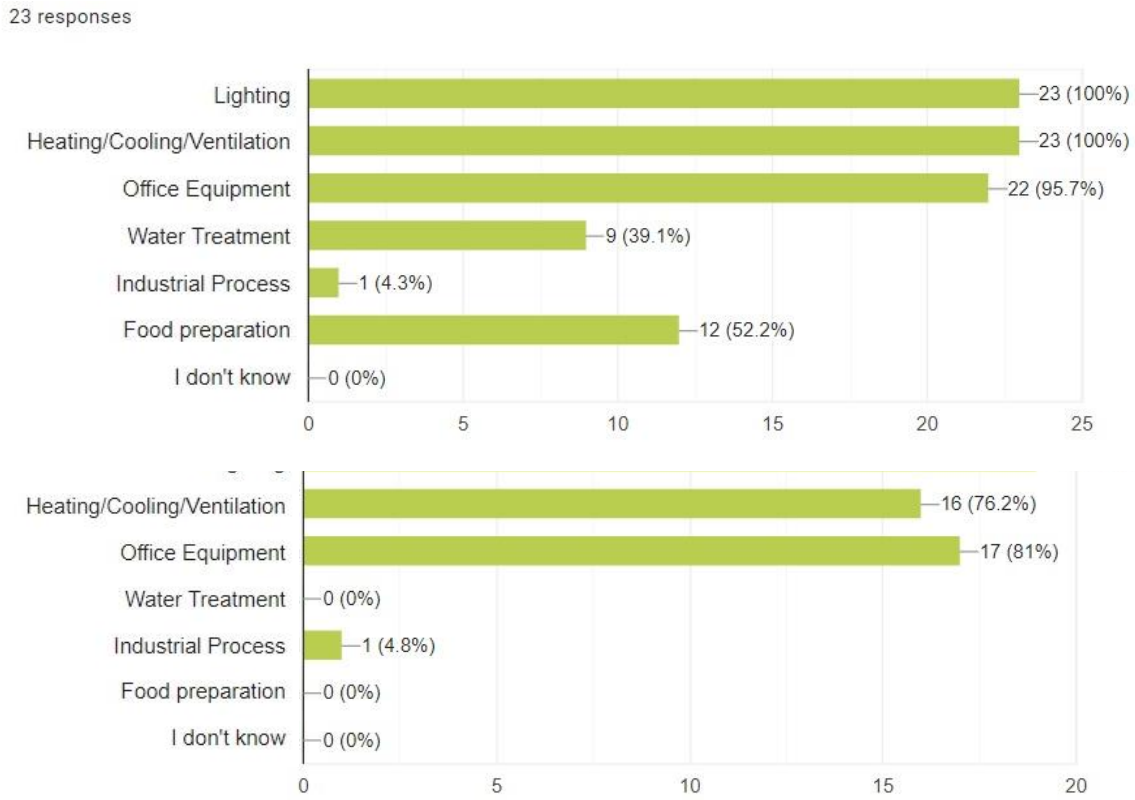


Italy



Spain

Romania



4.3.4 Energy Management

To determine the extent to which businesses already manage their energy consumption, a series of questions were asked to find out if:

- They have an energy manager already;
- They have an energy policy in place;
- They have set any targets for energy reduction and;
- They monitor energy consumption.

The results of these questions are shown in

Figure 10: Does your organisation have an Energy Manager?

Figure 10 to Figure 13.

Figure 10: Does your organisation have an Energy Manager?

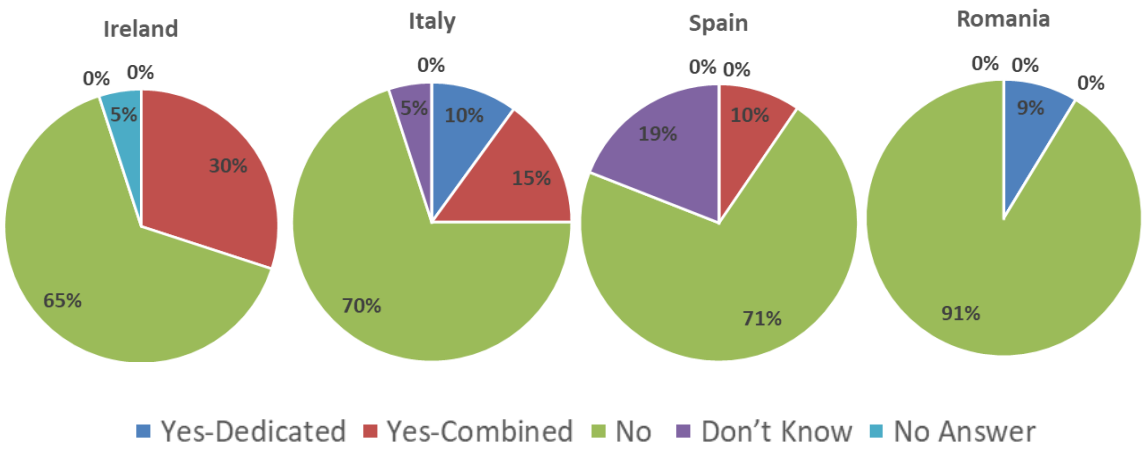


Figure 11: Does your organisation have an energy policy?

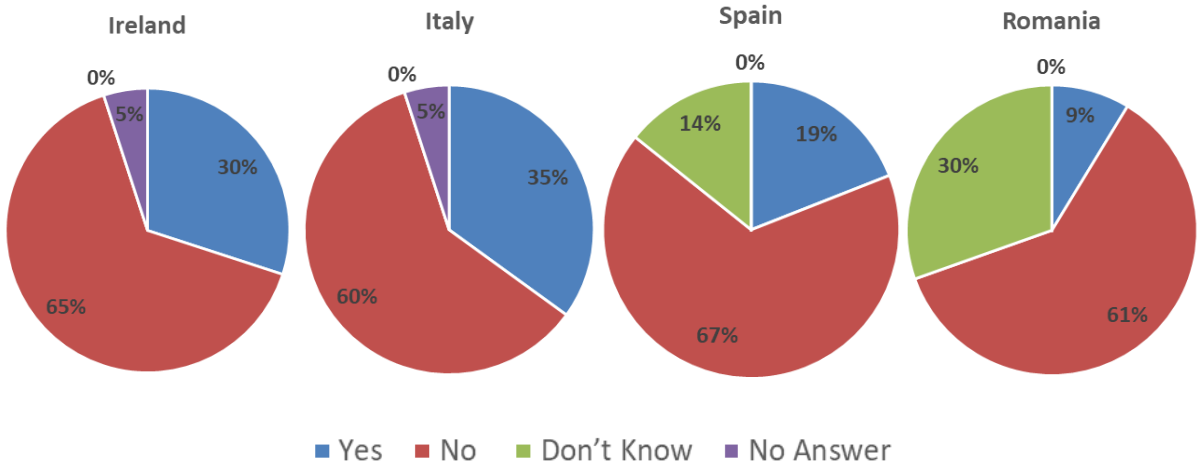
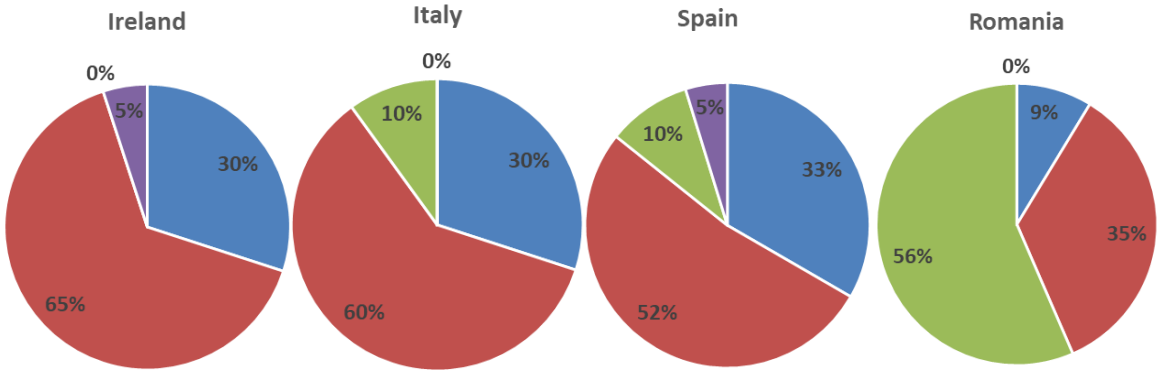


Figure 12: Have you set any targets for reducing energy consumption in your organisation?



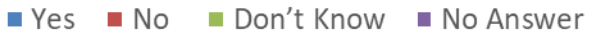
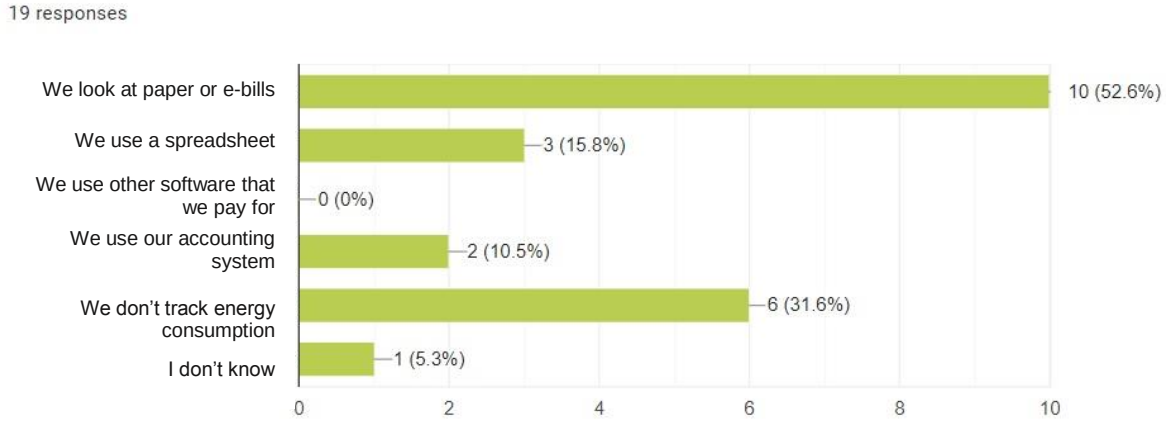
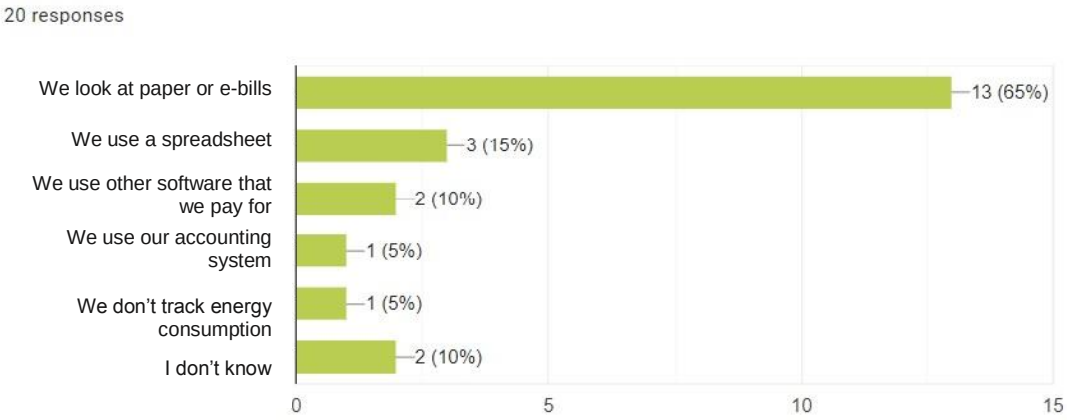


Figure 13: How do you track the energy usage of your organisation?

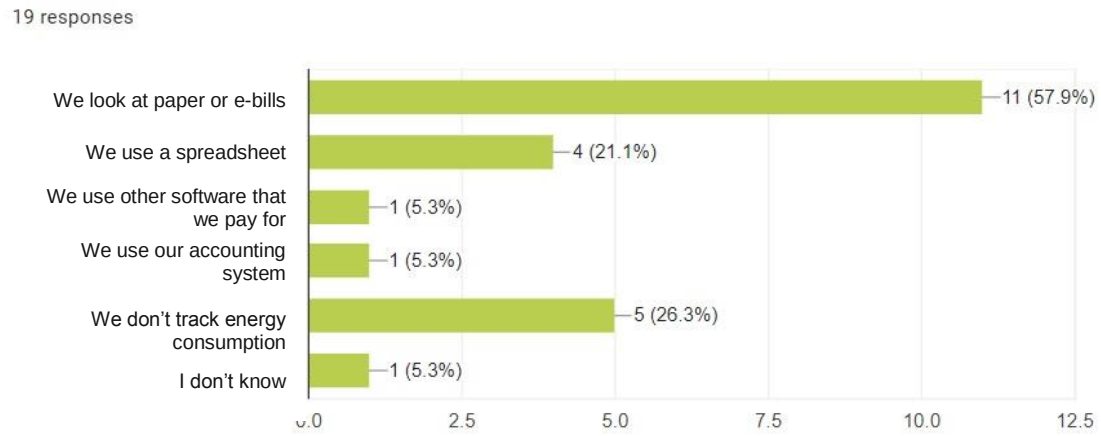
Ireland



Italy



Spain



Romania

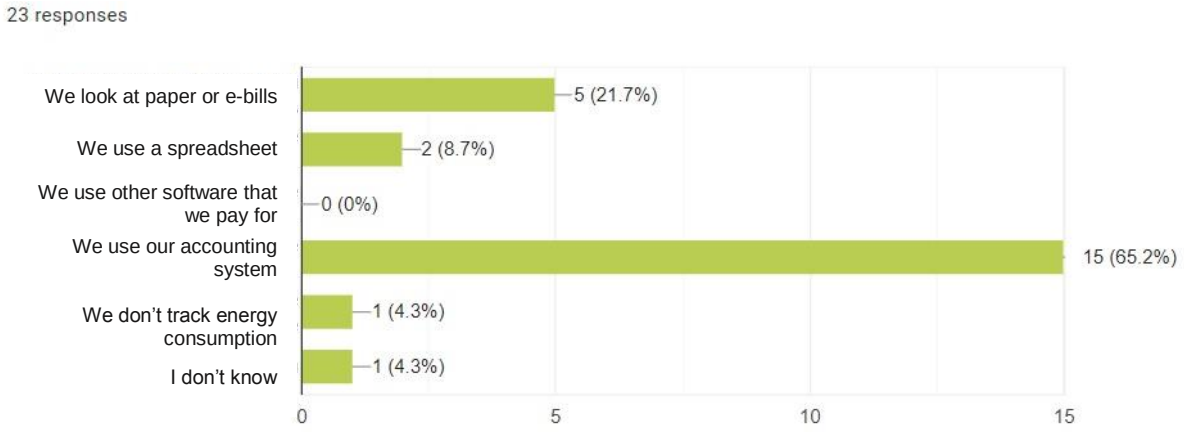


Figure 10 shows that the majority of respondents do not have an Energy Manager in their organisation. Where an organisation has stated that they do have an Energy Manager, it is usually combined with another role such as health and safety or quality management. This presents a great opportunity for SPEEDIER as it shows that there is a gap in the knowledge and resources of SMEs in terms of energy management which could be filled by a SPEEDIER Expert.

Since most of the SMEs do not have an Energy Manager within their organisation, it is no surprise that the majority of respondents stated that their organisation does not have an energy policy and have not set any targets on reducing energy consumption (see

Figure 11 and Figure 12). Again, this presents an excellent opportunity for SPEEDIER Experts to act as outsourced Energy Managers who can assist by creating an energy policy and setting suitable targets for the management of energy consumption.

When asked how energy consumption is monitored, most respondents in Ireland, Italy and Spain track their energy consumption through paper or e-bills, whilst in Romania the accounting system is the most common method of tracking energy consumption. In each

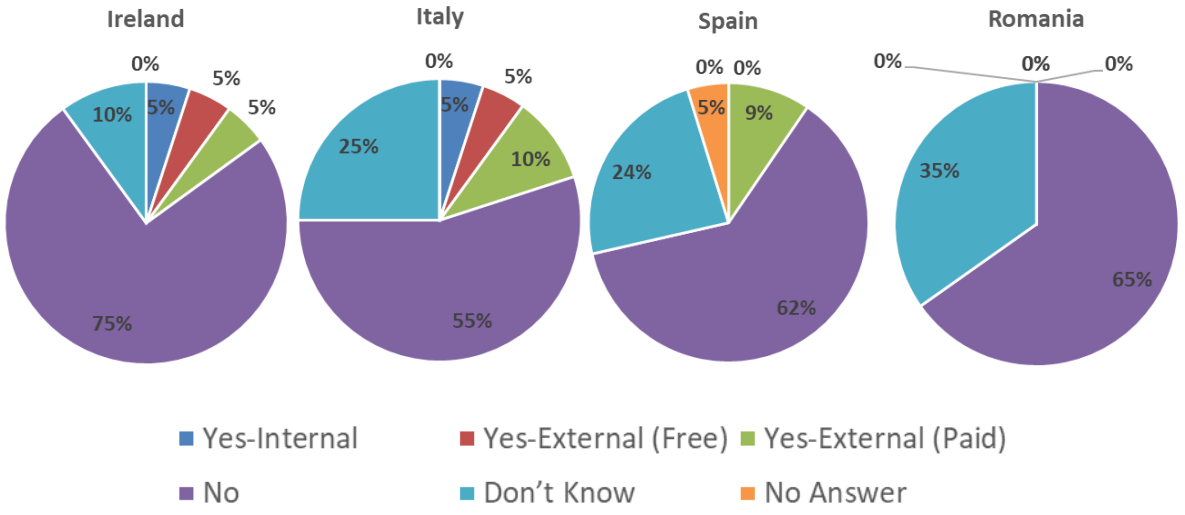
country there is a small proportion of businesses that do not track energy consumption at all. SPEEDIER can assist with this by providing a tool to assist the SPEEDIER Expert to track energy consumption on behalf of each business.

4.3.5 Energy Audit

Respondents were asked if their business had undertaken an energy audit in the last 5 years, either internally by an employee or with the help of an external consultant.

Figure 14 shows that most organisations (more than 55% in each country) have not undertaken an energy audit in the past 5 years, indicating an opportunity for the SPEEDIER project. Interestingly, a significant number of respondents in each country (10% to 35%) did not know whether or not their organisation had received an energy audit. This could be an indication of poor energy awareness within these organisations, however, as information on the job title of each respondent was not collected, it could also simply be a reflection that energy is outside the scope of the role of the individual respondent.

Figure 14: Has your business had an energy audit in the last 5 years?

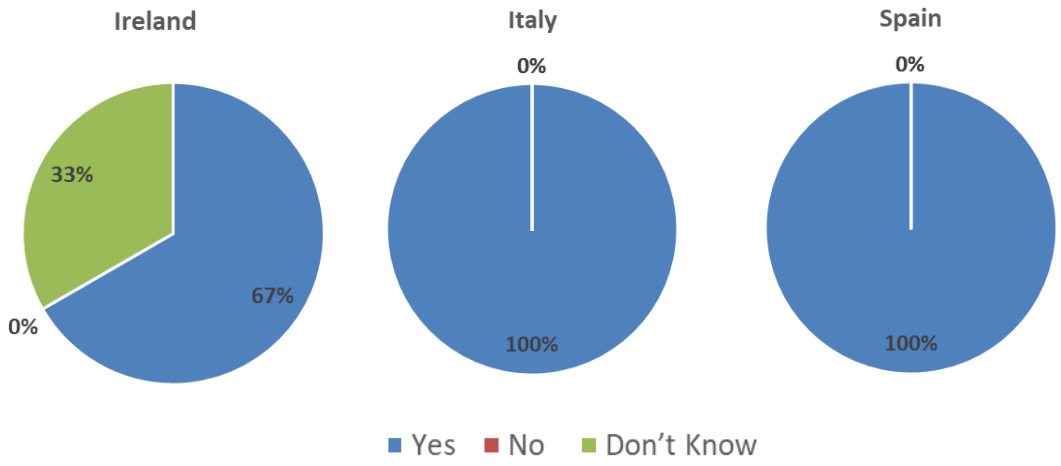


4.3.6 Implementation of Recommended Energy Conservation Measures

Respondents that stated that they had undertaken an energy audit in the last 5 years were asked a further questions on whether they went on to implement any of the recommended ECMs from the audit. As shown in Figure 15, the majority of businesses that had an audit went on to implement at least one of the recommended ECMs. This indicates that an energy audit can be an important step in providing organisations with the information and motivation they need to take action to reduce energy consumption. However, since the number of respondents to this question is small, it is not clear whether this trend is common among most SMEs. None

of the Romanian organisations had previously had an energy audit so there is no data for this question for Romania.

Figure 15: Did you implement any of the energy conservation measures recommended by the energy audit?

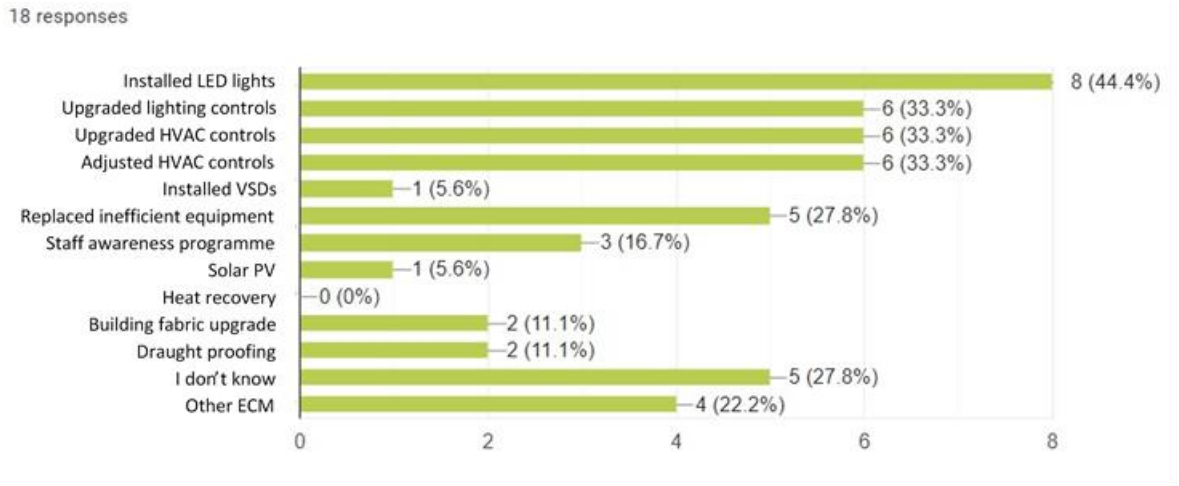


Respondents (both those that had an energy audit and those that had not) were asked which ECMs they have already implemented within their organisation. The responses for each country are shown in

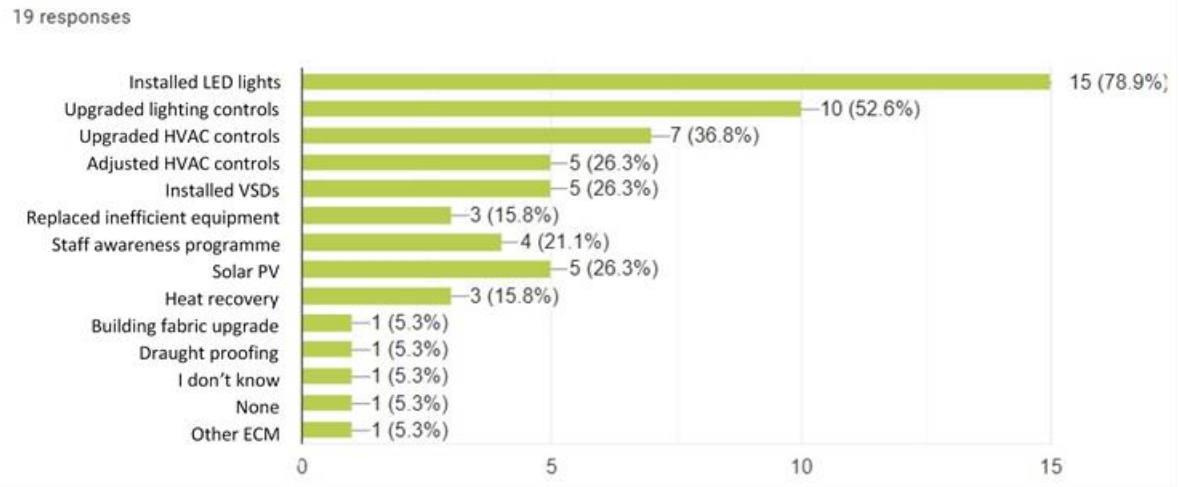
Figure 16. In all countries the most commonly installed ECM was LED lights. This is one of the least disruptive ECMs to install and often has a very fast payback period so this result is unsurprising. Instances of installations of other ECMS are much lower indicating that SMEs may need additional support, information or finance to take action to implement these measures. There is an opportunity for SPEEDIER Experts to assist with this and guide SMEs through the implementation of a package of more complex ECMs, particularly in Romania where the majority of respondents answered ‘None’ or ‘I don’t know’ to this question. Implementation of staff awareness programmes is also low in all countries indicating that the awareness training proposed by SPEEDIER could be a useful method of generating no-cost savings to seed the revolving energy efficiency fund.

Figure 16: Which of these energy conservation measures did you implement within your organisation

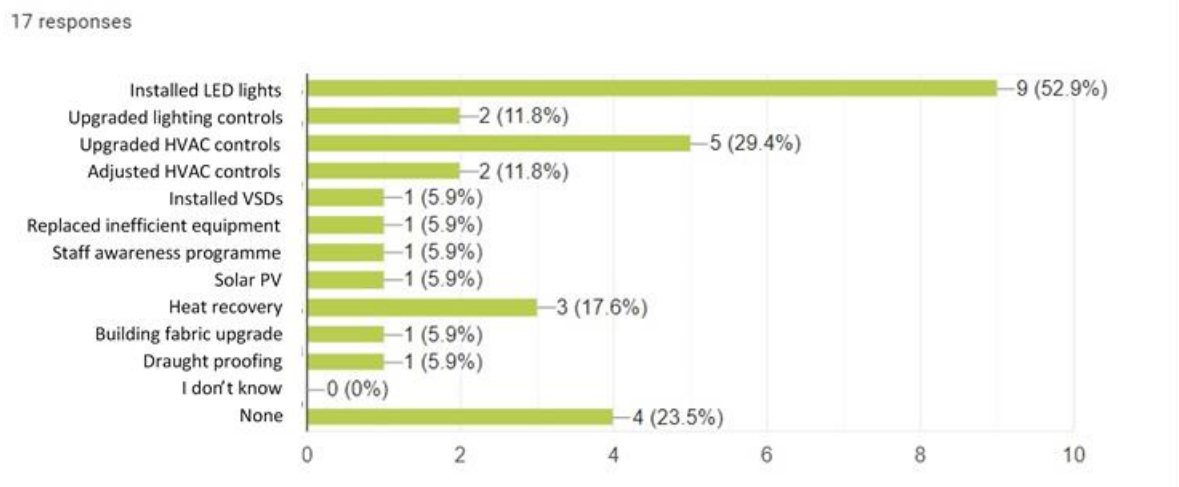
Ireland



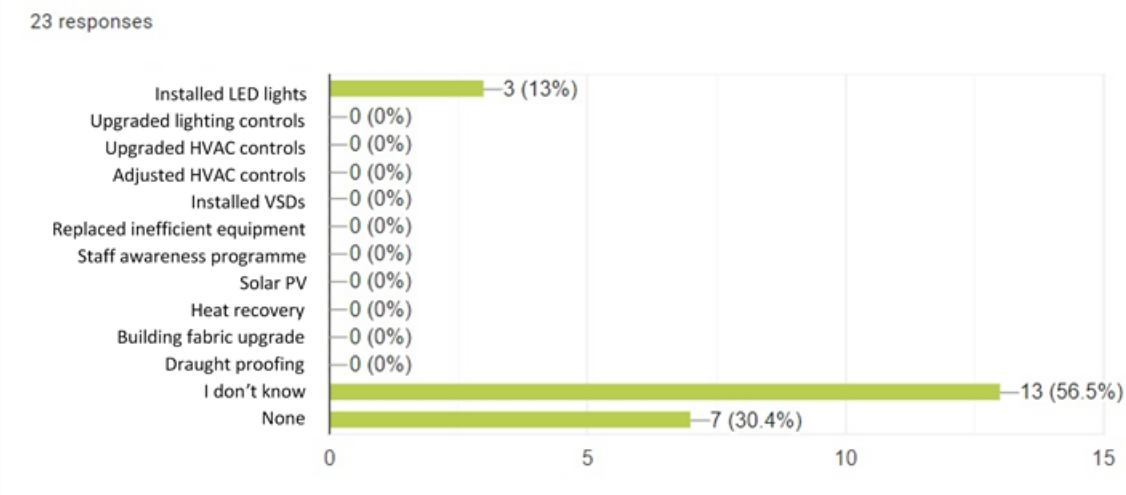
Italy



Spain



Romania

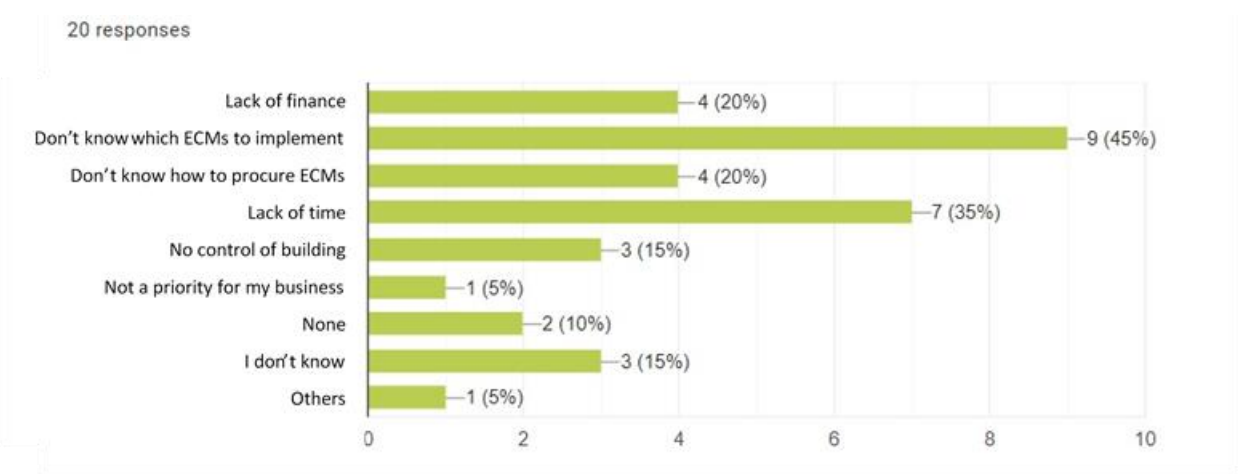


4.3.7 Challenges and Barriers

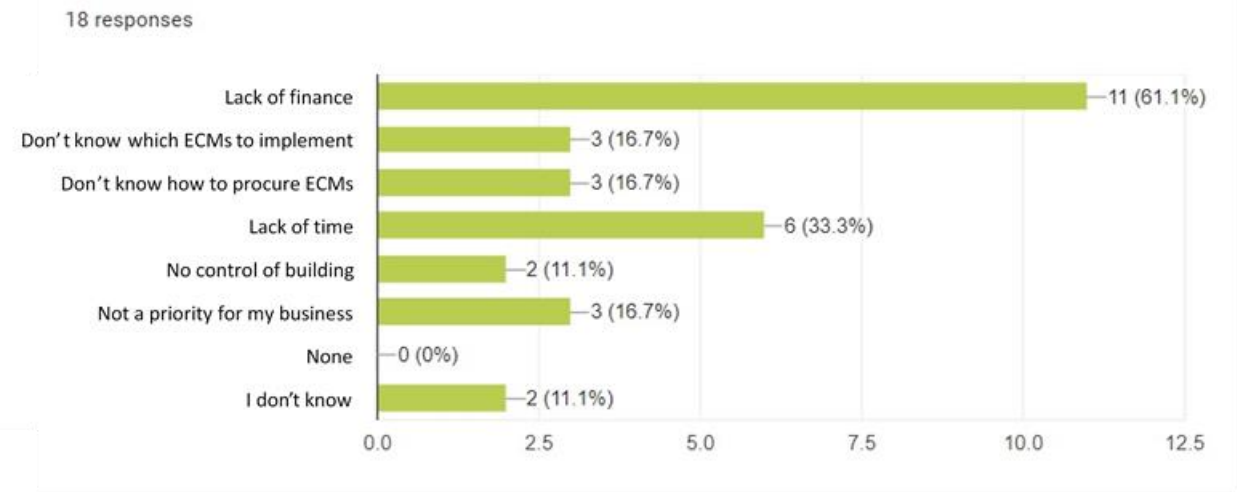
Respondents were asked to select all the challenges and barriers that prevent them from implementing ECMs. Figure 17 shows the responses broken down by country.

Figure 17: What challenges or barriers prevent you from implementing Energy Conservation Measures

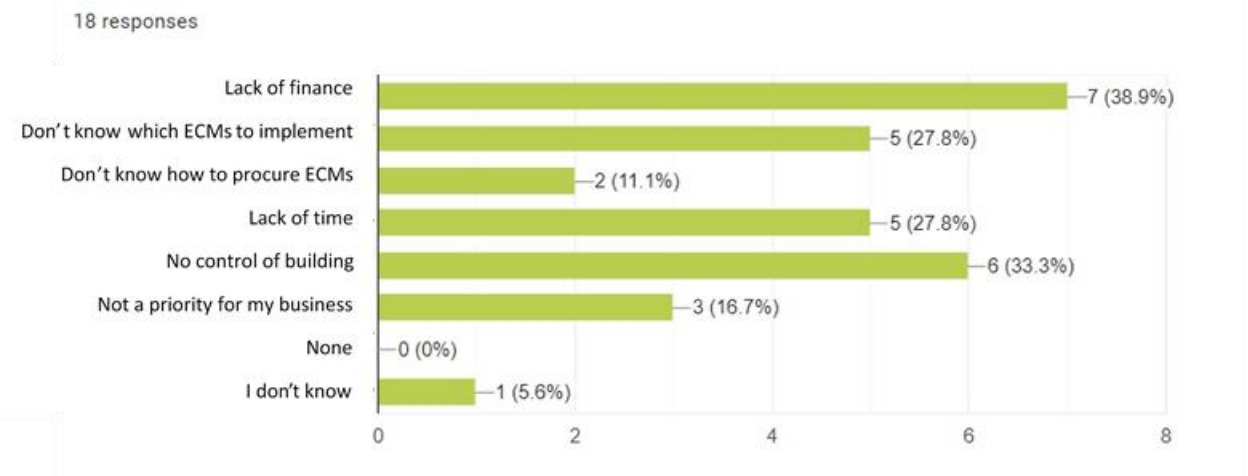
Ireland



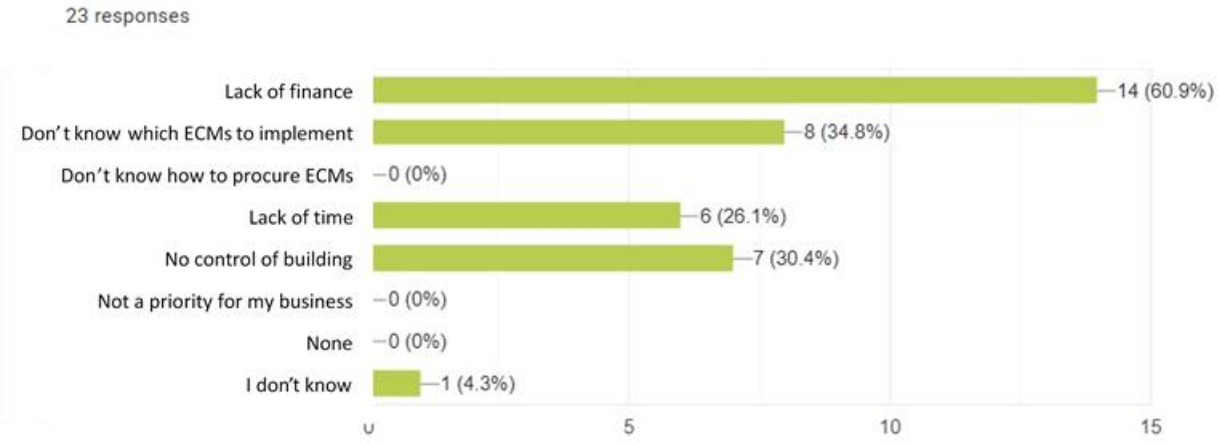
Italy



Spain

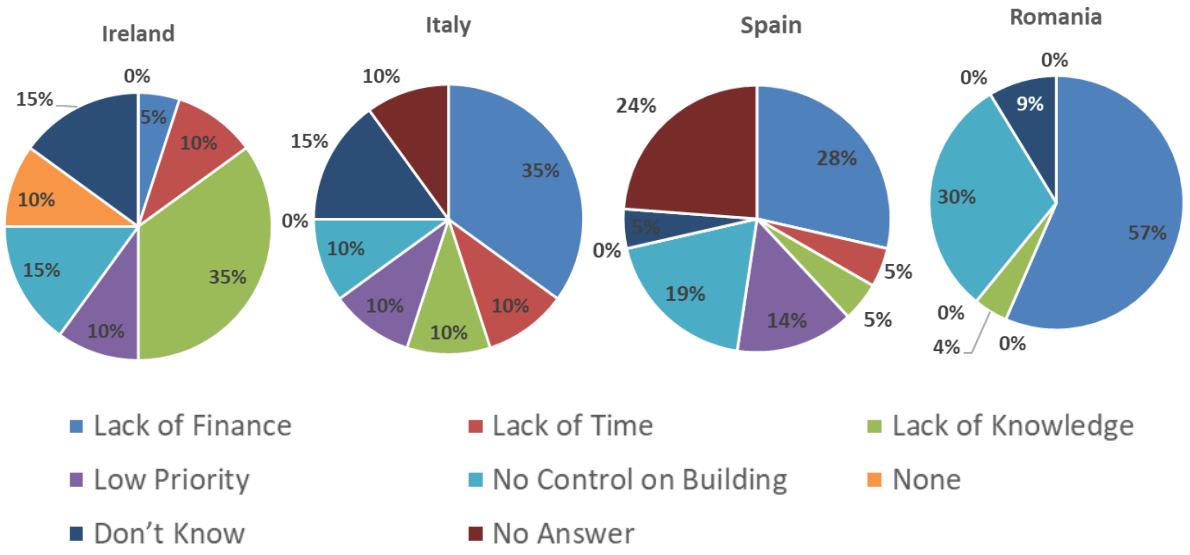


Romania



SME's were also asked what they consider to be the 'MAIN' barrier preventing them from implementing ECMs. The summary of responses is given in Figure 18. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 18: Of the barriers you identified above, please select the ONE that you consider to be the MAIN barrier to implementing energy conservation measures



From the above data, it is clear that there are differences between the countries in terms of what they perceive the main barrier to implementation of ECMs to be. For Irish respondents, the main challenge is their lack of knowledge on which measures are the most appropriate for their business and how to procure them. In contrast for Italian, Spanish and Romanian SMEs, lack of finance is perceived as the main barrier. Having no control over the building to enable the implementation of ECMs is also a significant challenge for Spanish and Romanian SMEs, reflecting the fact that in Spain many businesses are renting their premises and in Romania there could be stricter controls on allowable building upgrades. It is therefore important that the SPEEDIER Service is tailored to the requirements of each country to maximise uptake.

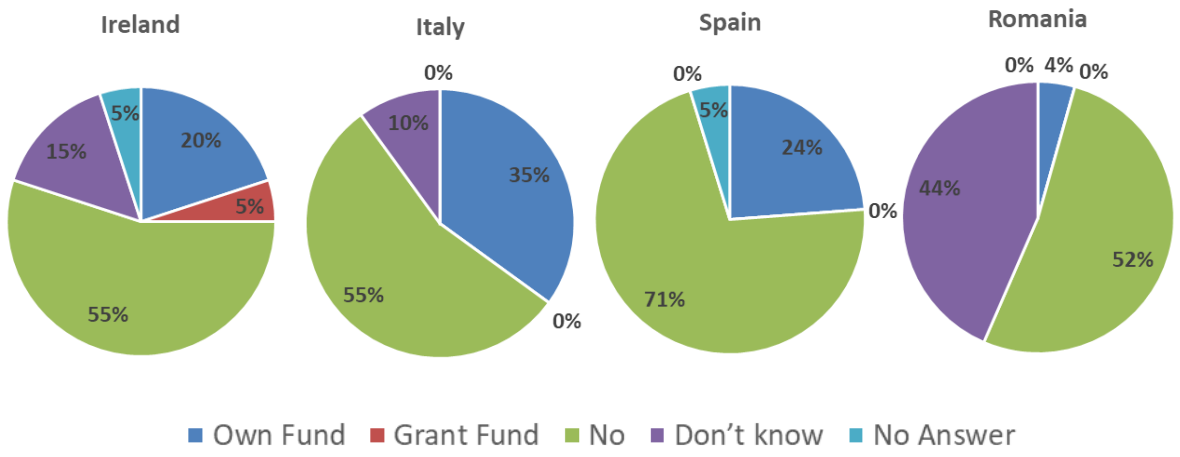
The SPEEDIER self-financing mechanism, where savings from energy efficiency are ring fenced and reinvested in additional ECMs will help SMEs to overcome the challenge of lack of finance. It will also ensure that SMEs do not need any upfront capital to begin making savings as long as the SME is prepared to ring-fence and re-invest the savings. Outsourcing the energy management to SPEEDIER Experts will help to remove the barriers of lack of time and lack of knowledge.

4.3.8 Funds Availability

After learning about the challenges they face, respondents were asked about the availability of dedicated funds for the implementation of recommended ECMs. Figure 19 shows that most SMEs lack their own funds for the implementation of ECMs, hence there is an opportunity for SPEEDIER to assist them to create their own seed funding through the self-financing mechanism. SPEEDIER Experts will be able to guide both small and large organisations through this process and advise on how to supplement the savings with locally or regionally specific grant funding, tax incentives or loan mechanisms to make up any shortfall. This

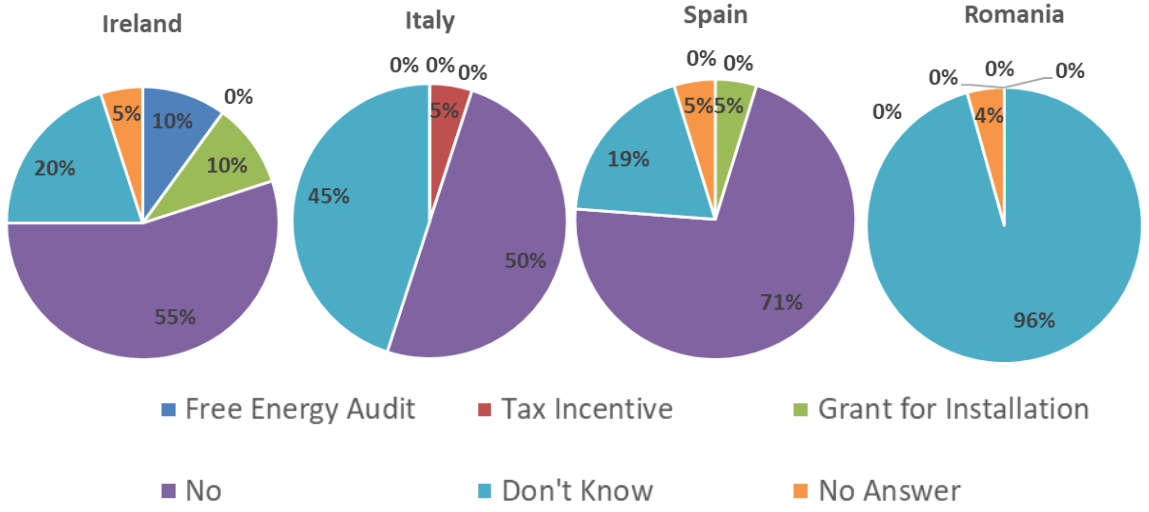
ensures that SMEs do not need any upfront capital to begin taking action to reduce energy consumption as long as they are prepared to ring-fence and re-invest the savings.

Figure 19 Does your business have dedicated funds for investing in Energy Efficiency improvements



SMEs were also asked whether they have ever received any government funded support or incentives to help to implement ECMs. As shown in Figure 20, most SMEs either have not received any support or are unsure if they have or not. This could indicate that either there are no government incentive schemes available in these countries, or that SMEs are simply not aware that any incentive schemes might exist. SPEEDIER Experts will also have specialist knowledge of the financing instruments and other support mechanisms that are available in their country and will therefore be able to advise SMEs on the most appropriate grant schemes, tax incentives and low interest loans that are available.

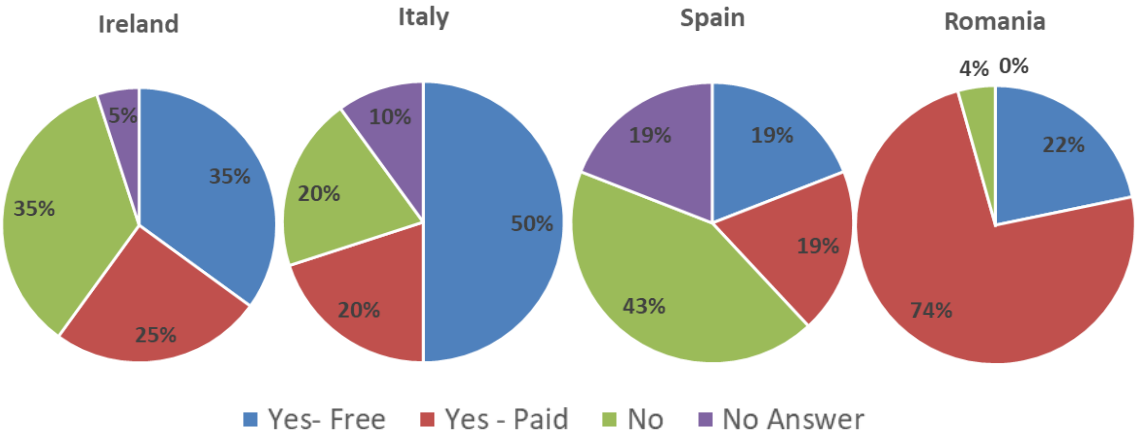
Figure 20: Has your business ever received any government support or incentives to help you to implement Energy Conservation Measures?



4.3.9 Outsourcing Energy Management

Finally, respondents were asked whether they would be happy to outsource the energy management of their organisation to an energy expert. Again, the differences between the countries is clear as shown in Figure 21. In Ireland, Italy and Romania, most businesses stated that they would be happy to outsource energy management but in Italy respondents would prefer the service to be free of charge whilst in Romania most respondents would be happy to pay for the service. In contrast, a significant proportion of Spanish respondents (43%) would not be happy to outsource energy management. The reason for the differences between the countries is unclear, but the results show that the SPEEDIER Service will need to be presented differently to clients according to their country of operation.

Figure 21: Would you be happy to outsource energy management of your building to an energy expert whose role is to advise on which are the best energy conservation measures to implement in your business and manage the implementation of these measures?



5 Online Survey for Stakeholders: Analysis

In this section, the key findings from the analysis of the responses to the online survey for other SPEEDIER stakeholders (energy experts, technology installers, landlords, finance providers) is summarised. Where possible, the responses for each question have been presented in graphical form, broken down by country to highlight the differences between each geographical location. For each question, tables showing the raw data in numerical format are given in Annex 3 - Survey Results Tables.

5.1 Response Rate

The target response rate described in section 3.5 was achieved. A breakdown of the number of responses received from stakeholders in each pilot country is given in Table 3.

Table 3: Survey response rates achieved by country

Country	Stakeholder Survey Responses
Ireland	27
Italy	20
Spain	24
Romania	20
Total	**91**

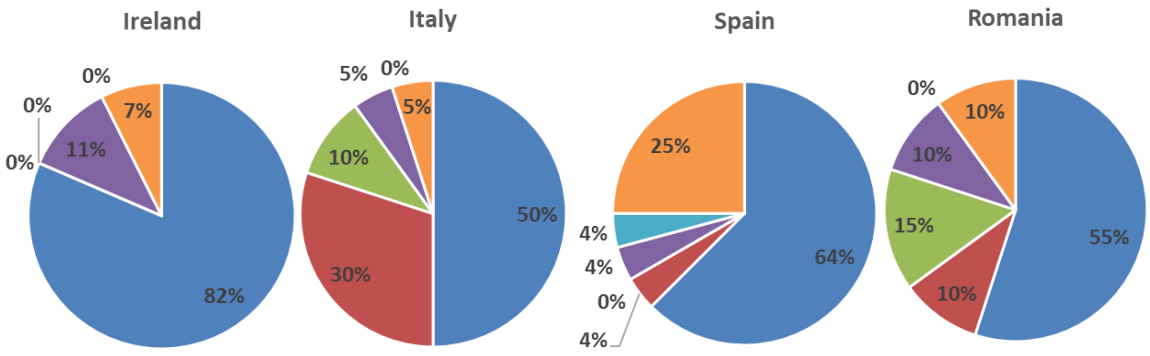
5.2 Mandatory Questions

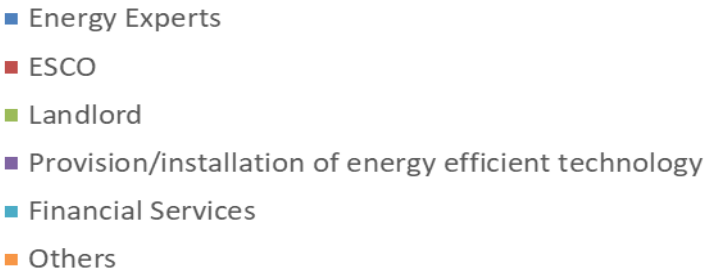
Section 2 of the online questionnaire contained all the mandatory questions. These questions related to the stakeholders' main business activity and business location and were included to enable categorisation of, and to assist to identify possible biases in, the results. Based on the selected main business activity, each stakeholder was then directed to the appropriate section of the survey.

5.2.1 Main Business Activity

The first question asked each stakeholder to confirm their main area of business. The graphical representation of the responses received is below. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 22: The main activity of my business is





The category 'Energy Experts' includes energy auditing, energy management and energy consultancy whilst the 'Others' category includes environmental certification, academia, R&D, facility engineering and hotel management.

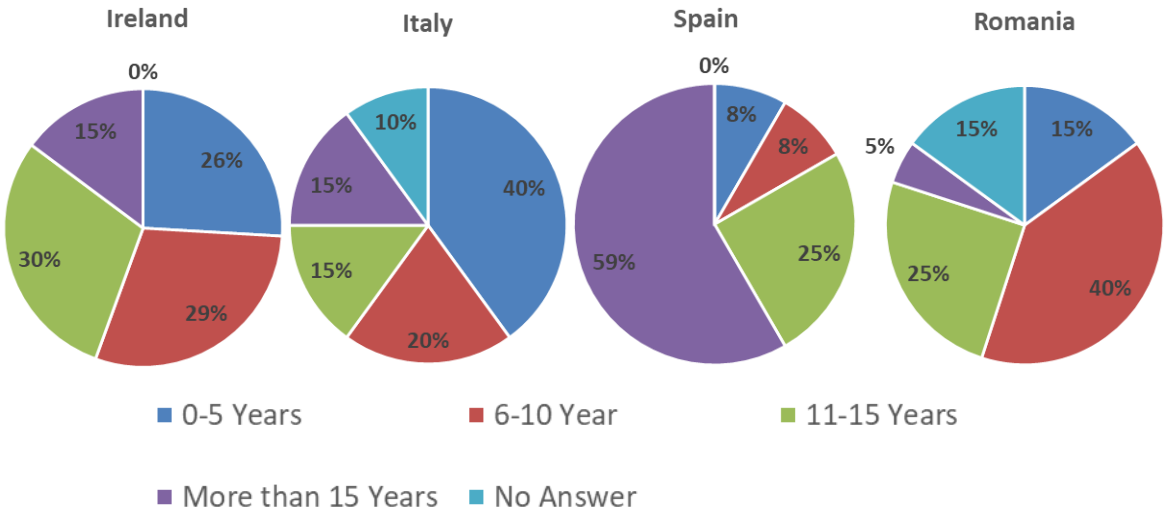
From the responses received, it is clear that the majority of respondents consider themselves to be 'Energy Experts'. As only one financial service provider has responded to the survey from across all the pilot countries, this report does not represent the opinion of financial service providers as a whole.

5.3 Optional Questions

5.3.1 Business Experience

To understand the level of experience in delivering energy related services, respondents were asked how many years of experience they have in delivering their main business activity. The graphical representation of the responses received is below. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 23: How many years of experience do you have in your main business activity?



In Ireland, Italy and Romania most of the respondents have less than 10 years' experience in their sector, whilst in Spain the majority of respondents have more than 15 years' experience.

5.3.2 Other Services provided by Energy Experts

Respondents that selected 'Energy Expert' as their main business activity were asked about what other services their business provides to determine whether energy related services are the main focus of the business or one of a suite of additional services. Most respondents stated that they are involved in delivering a range of energy related services such as energy

auditing, energy management, energy advice, energy monitoring, implementation of standards (like ISO 50001 or ISO 14001), training on energy efficiency or related topics, and specifying appropriate energy saving technologies for their clients.

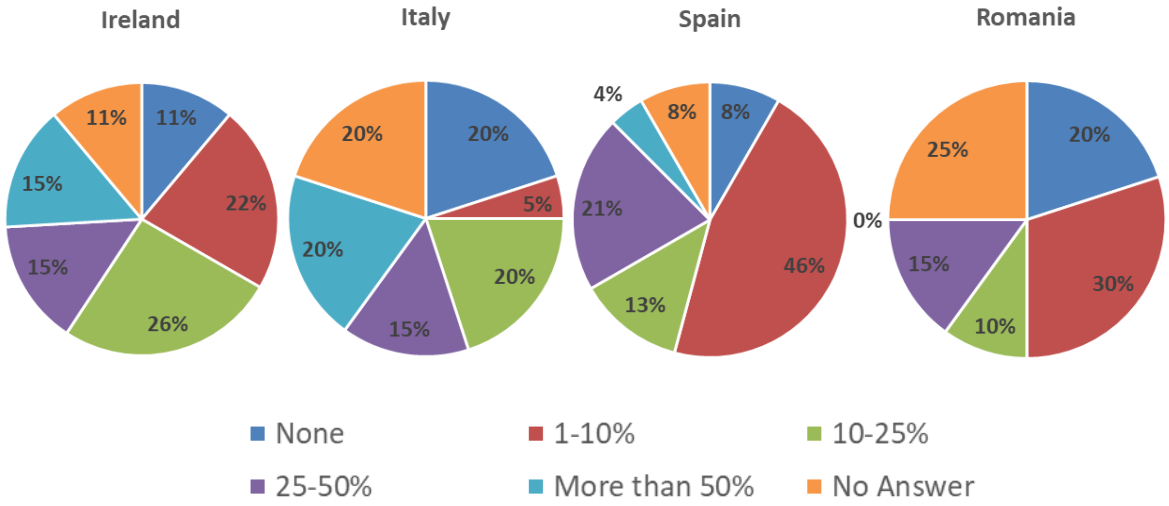
5.3.3 Software/Tool for Energy Auditing

Energy experts that are involved in energy auditing were asked if they typically use any software or tools to assist them to carry out energy audits and the associate energy saving calculations. Of the auditors that use software to assist them, over 80% stated that they use Microsoft Excel across all the pilot countries. The other 20% stated a range of different software tools including Energy Plus, eQuest, and EMAT.

5.3.4 Percentage of turnover from Energy Audits

Energy experts were asked to estimate what percentage of their turnover comes from energy auditing. The graphical representation of the responses received is below in Figure 24. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 24: Thinking about energy auditing in particular, approximately what proportion of your turnover comes from energy auditing?

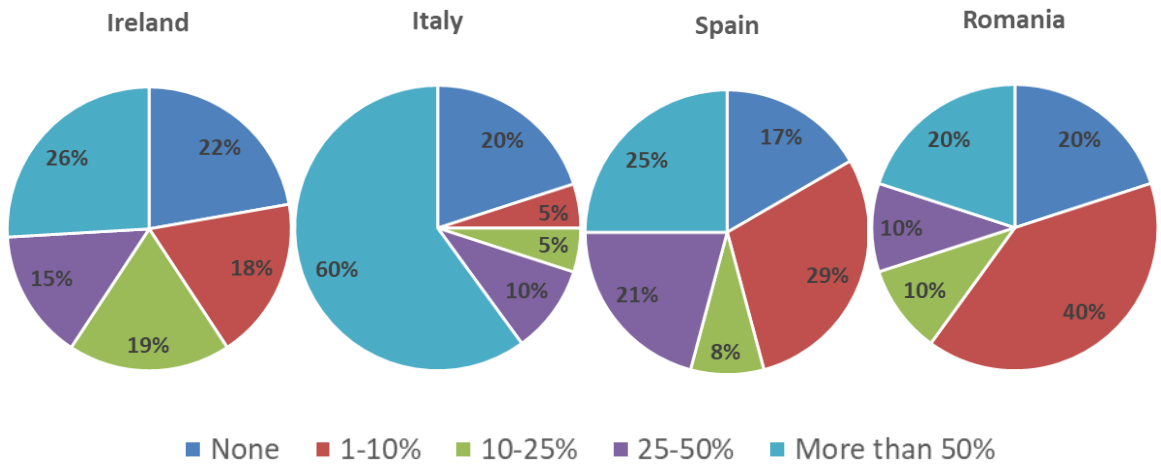


The data shows that for Ireland, Spain and Romania energy auditing makes up less than 25% of annual turnover for most energy experts. When considered in the context of the other services that energy experts stated that they deliver (as discussed in Section 5.3.2) this is not a surprising finding as the energy audit is likely to form part of a package of services, or be a small piece of work that leads to a larger contract. The proportion of experts that stated that energy auditing accounts for more than 25% of their turnover is highest in Italy at 35%. This could reflect the strong ESCO market in Italy due to the success of the white certificate scheme, which makes it more likely that businesses opt to undertake energy audits more frequently.

5.3.5 Audits for SMEs

Energy experts were asked to estimate the proportion of sites that they audited in the last year that belonged to SMEs. The graphical representation of the responses received is below. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 25: Approximately what proportion of sites that you audited belonged to an SME



The response to this question varied between the pilot regions. Energy experts in Italy appear to have the highest rate of engagement with SMEs as 60% of respondents stated that SMEs account for more than 60% of their energy auditing work. It is unclear why this is the case but it could be due to the large ESCO market in Italy and the prevalence of the white certificate scheme which makes it worthwhile for ESCOs to work with smaller organisations and trade the white certificates achieved through certified energy savings. In contrast, Romania has the lowest rate of engagement with SMEs as 60% of energy experts stated that energy audits for SMEs account for less than 10% of their auditing work.

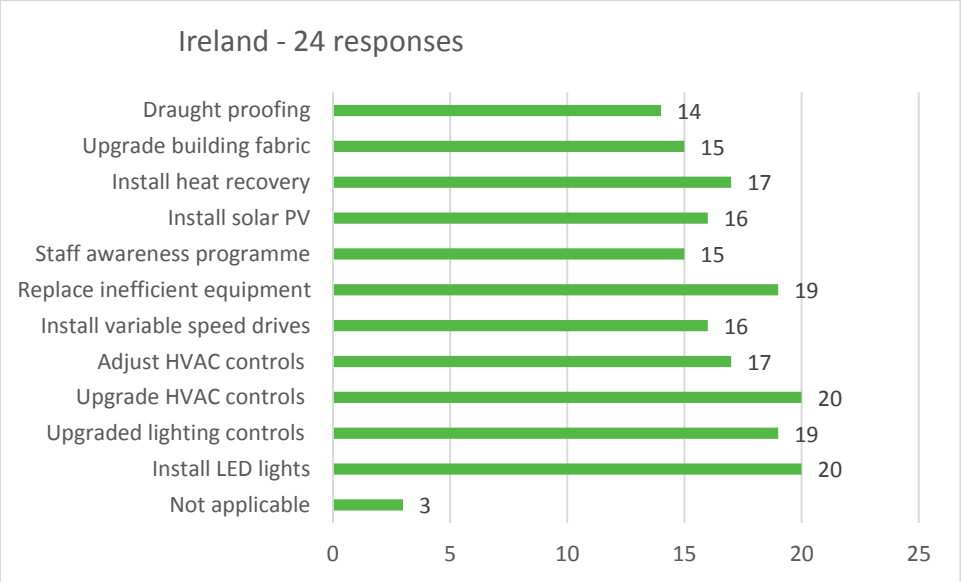
5.3.6 Type of ECMs recommended or implemented by stakeholders

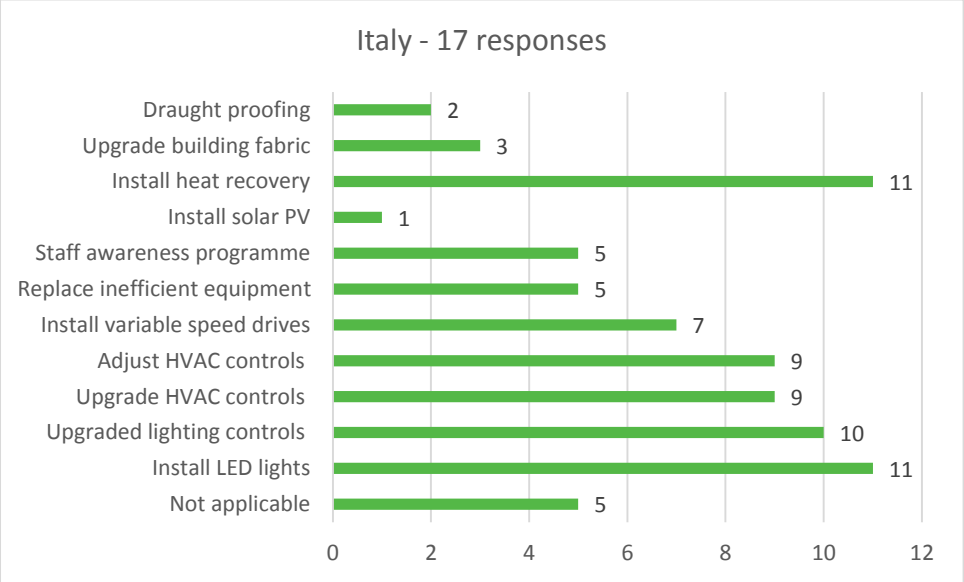
Energy experts were asked to state which energy conservation measures they would typically recommend to their clients.

Figure 26 shows the number of responses received for each type of ECM broken down by pilot country. Recommendation of draught proofing or upgrades to building fabric is more common in Ireland and Romania compared to Spain and Italy, perhaps because of the colder

winter climate in these countries which makes heating buildings to a comfortable temperature more difficult in winter.

Figure 26: Which energy conservation measures do you typically recommend to SMEs?




Italy - 17 responses
Draught proofing
Upgrade building fabric
Install heat recovery
Install solar PV
Staff awareness programme
Replace inefficient equipment
Install variable speed drives
Adjust HVAC controls
Upgrade HVAC controls
Upgraded lighting controls
Install LED lights
Not applicable
2
3
11
1
5
5
7
9
9
10
11
5
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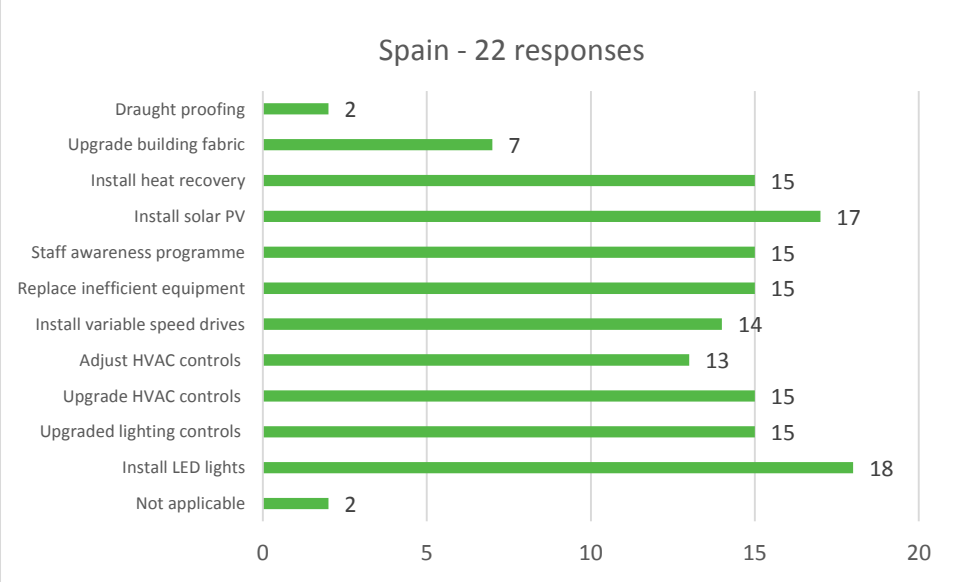
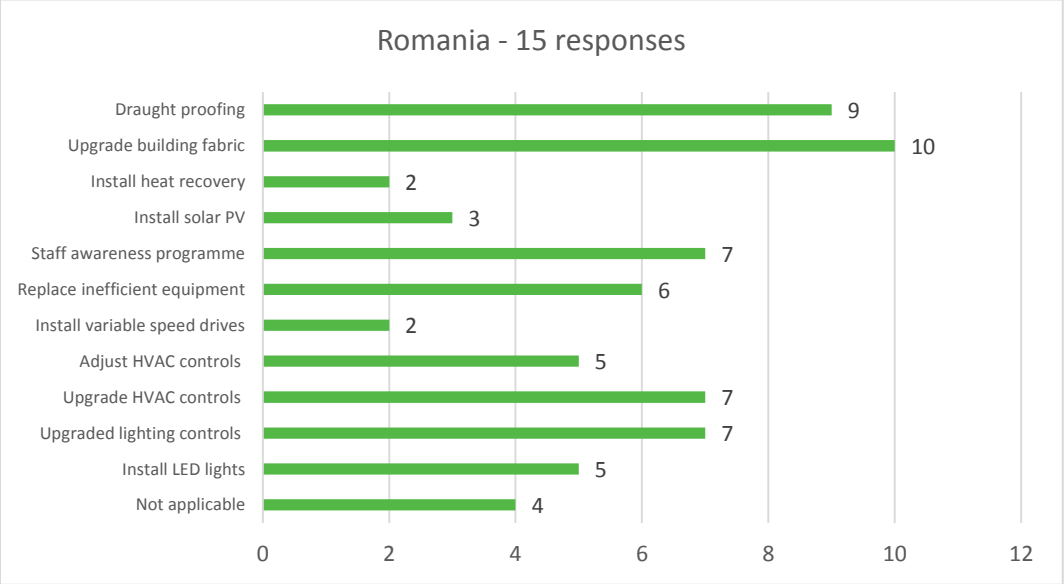
2
4
6
8
10
12


Spain - 22 responses
Draught proofing
Upgrade building fabric
Install heat recovery
Install solar PV
Staff awareness programme
Replace inefficient equipment
Install variable speed drives
Adjust HVAC controls
Upgrade HVAC controls
Upgraded lighting controls
Install LED lights
Not applicable
2
7
15
17
15
15
14
13
15
15
18
2
0
5
10
15
20



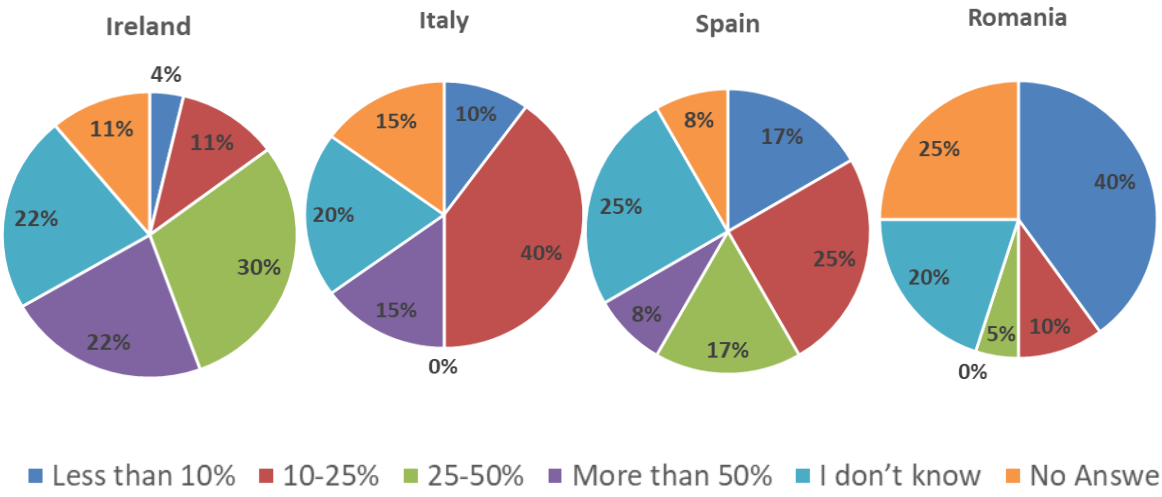
5.3.7 ECM implementation by SMEs

Energy experts were asked to estimate the percentage of SMEs that went on to implement the recommended ECMs. The graphical representation of the responses received is below on Figure 27. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 27 shows that in all countries at least one third of energy experts did not know (or provided no answer) on the number of SMEs that go on to implement the recommended ECMs. This indicates that their interaction with the SMEs may end after the energy audit without further advice or assistance to implement any ECMs. The graphs also show striking differences between the countries. In Romania, 40% of energy experts estimated that fewer than 1 in 10 SMEs that they worked with went on to implement any ECMs, compared to only 4% in Ireland, 10% in Italy and 17% in Spain. 22% of Irish energy experts also estimated that more than half of the SMEs they worked with went on to implement the recommended ECMs compared to 14% in Italy, 8% in Spain and 0% in Romania.

This is consistent with the findings from the SME survey discussed in Section 4.3.6, which showed that most Irish SMEs surveyed have implemented a wide range of ECMs while most Romanian SMEs have not implemented any ECMs. This presents a significant opportunity for SPEEDIER as the project will attempt to continue engagement of SPEEDIER Experts with SMEs beyond the energy audit to ensure that recommended ECMs are implemented.

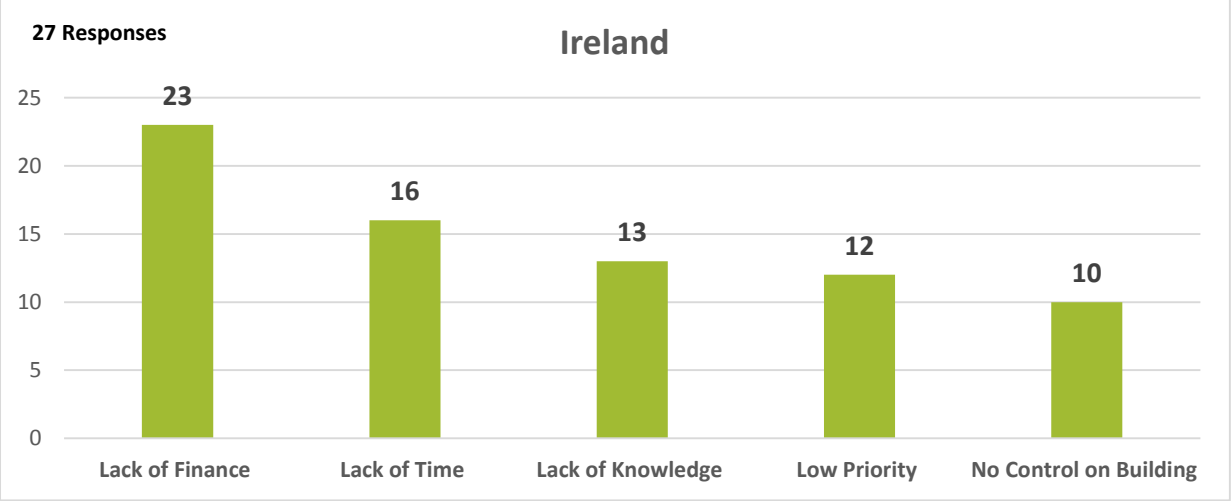
Figure 27: What proportion of the SMEs that you successfully audited went on to implement the energy conservation measures that you recommended?

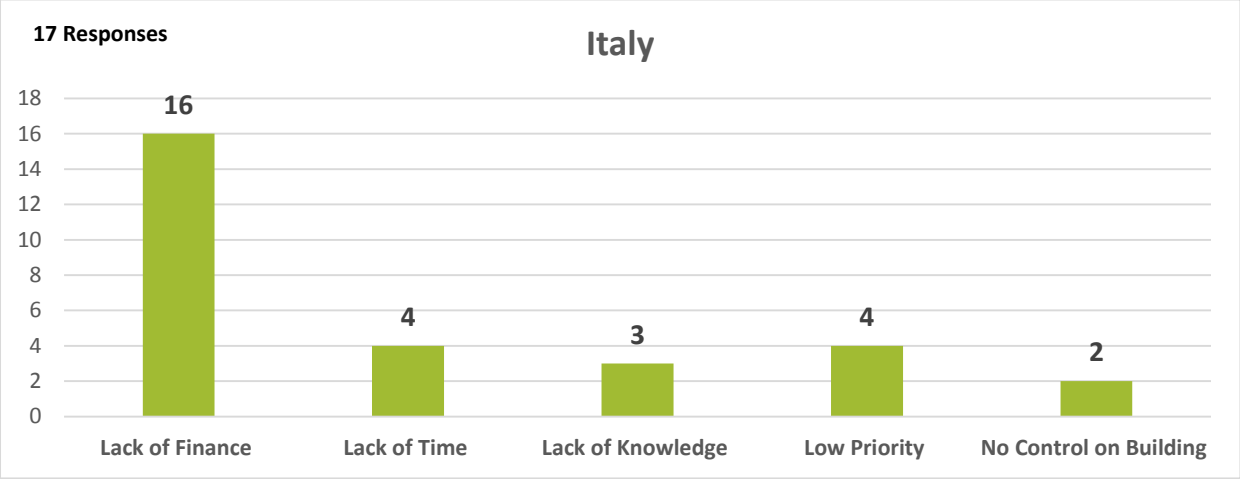


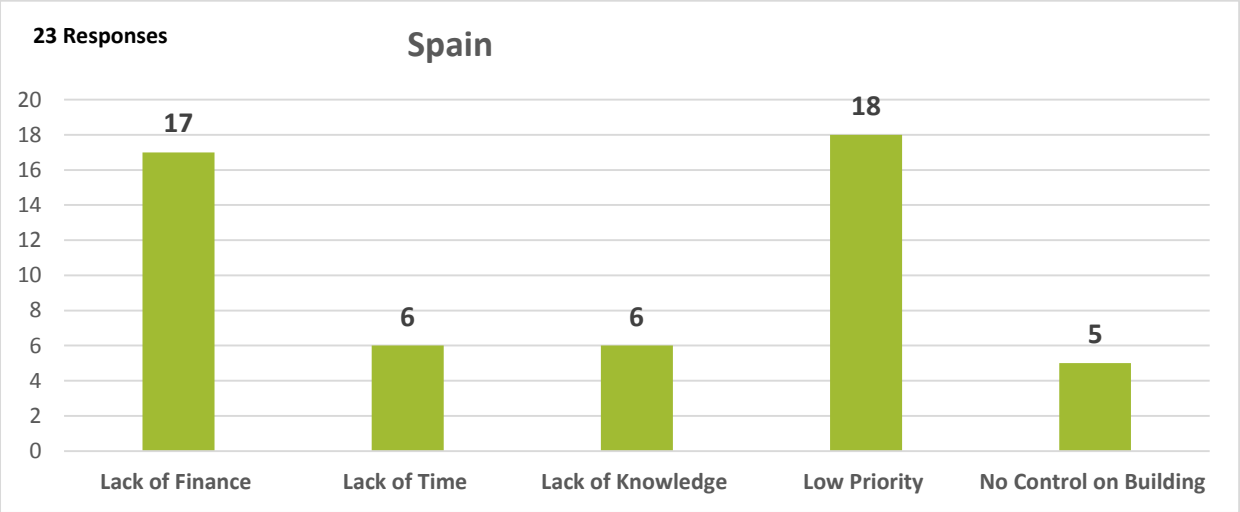
5.3.8 Challenges and barriers to implementation of ECMs

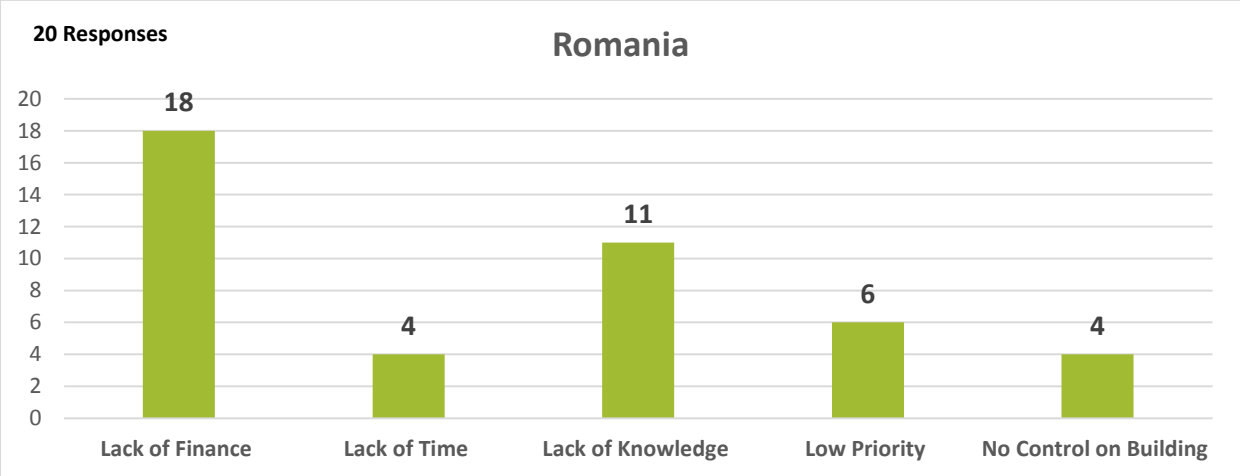
All respondents to this survey were asked to select all the challenges or barriers that prevent SMEs from implementing ECMs from the list presented. Graphical representation of the number of responses received on each of the predefined challenges for this question is shown below in Figure 28.

Figure 28: What barriers typically prevent the SMEs you have worked with from implementing the Energy Conservation Measures that you recommended?



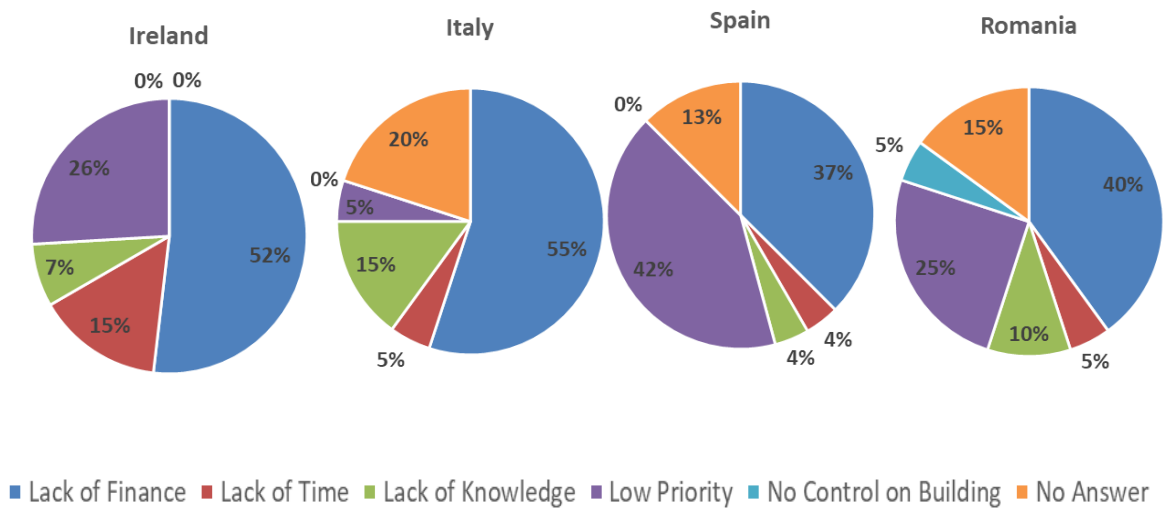

17 Responses
Italy
18
16
14
12
10
8
6
4
2
0
16
4
3
4
2
Lack of Finance
Lack of Time
Lack of Knowledge
Low Priority
No Control on Building


23 Responses
Spain
20
18
16
14
12
10
8
6
4
2
0
17
6
6
18
5
Lack of Finance
Lack of Time
Lack of Knowledge
Low Priority
No Control on Building


20 Responses
Romania
20
18
16
14
12
10
8
6
4
2
0
18
4
11
6
4
Lack of Finance
Lack of Time
Lack of Knowledge
Low Priority
No Control on Building

In addition to this respondents were asked to identify what they considered to be the MAIN challenges or barrier preventing SMEs from implementing the recommended ECMs. The graphical representation of the responses received is below in Figure 29. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 29: Main Challenge to implement the ECMs for SMEs



In Ireland, Italy and Romania, the largest proportion of the stakeholders that were surveyed considered lack of finance to be the main barrier to implementation of ECMs for SMEs (52%, 55% and 40% respectively). However in Spain, stakeholders seem to consider that energy efficiency being a low priority for SMEs is the biggest barrier (42%), closely followed by lack of finance (37%). This is an interesting result because it differs from the opinions of the SMEs that were surveyed (see section 4.3.7) which indicates that in Ireland more SMEs see lack of knowledge as the main barrier while in Spain it is lack of finance. It indicates that there is a mismatch between what SMEs and energy experts perceive to be the main barrier to action on energy efficiency. The SPEEDIER Training for Experts should include a discussion of this difference as it may change the way that SPEEDIER Experts approach SMEs to participate in the programme.

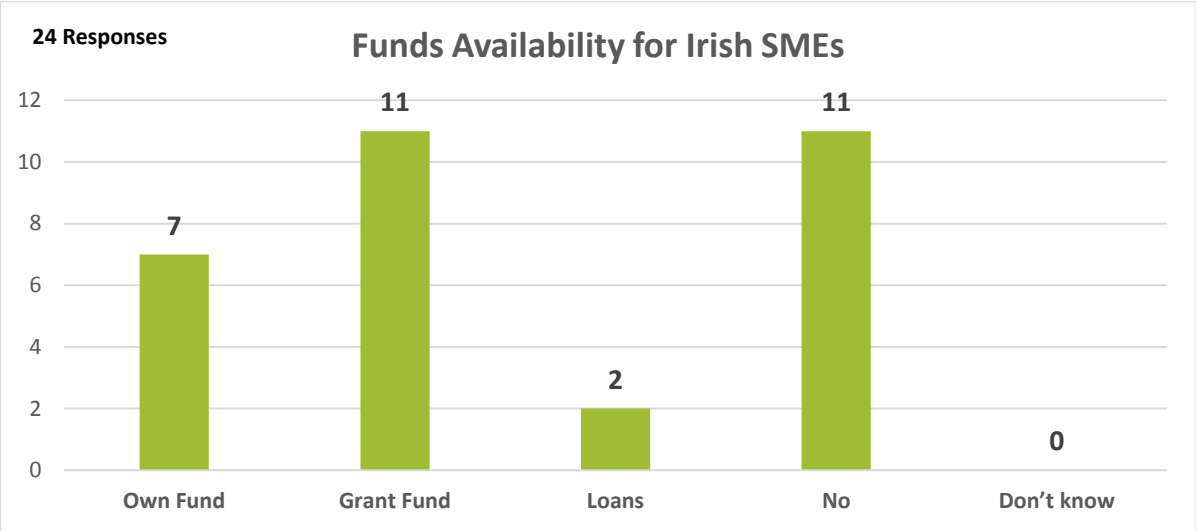
The SPEEDIER self-financing mechanism will help to overcome the challenge of lack of finance to invest in ECM implementation and it is essential that both SPEEDIER Experts and SMEs understand this mechanism. The SPEEDIER self-financing mechanism also ensures that SMEs do not need any up front capital to begin making savings as long as the SME is prepared to ring-fence and re-invest the savings.

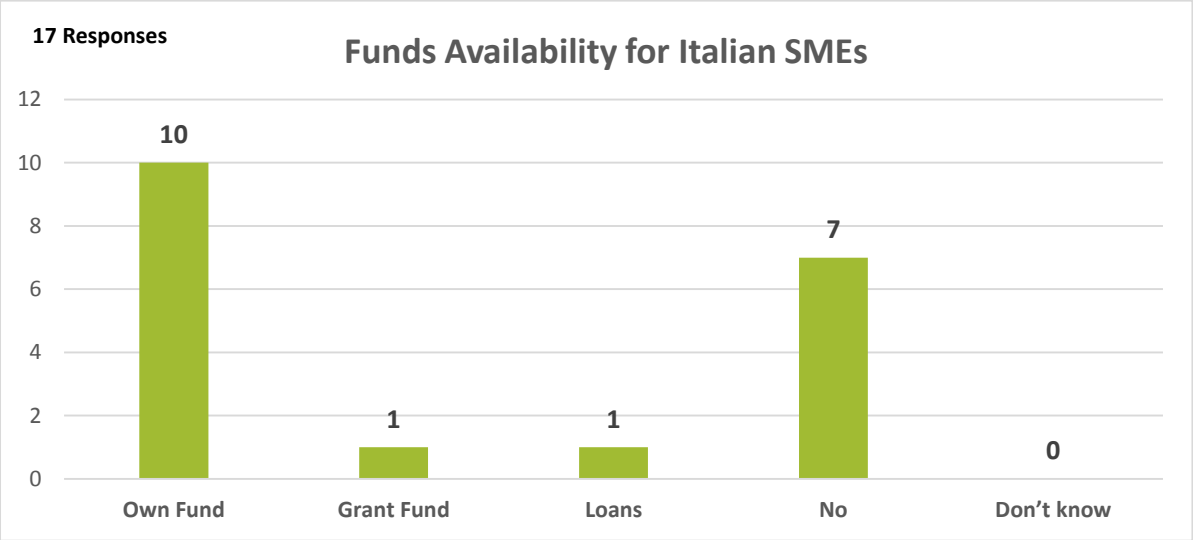
The SPEEDIER staff energy awareness training will help to raise the awareness of the importance, and the related advantages, of energy auditing and subsequent implementation of recommended ECM's. These events could help to overcome the challenges relating to lack of knowledge and the low priority given to energy efficiency among SMEs. Furthermore outsourcing the energy management to SPEEDIER experts will help SMEs to overcome barriers such as of lack of time and lack of knowledge on what and how to implement the ECMs to reduce the energy consumption and energy cost outflow.

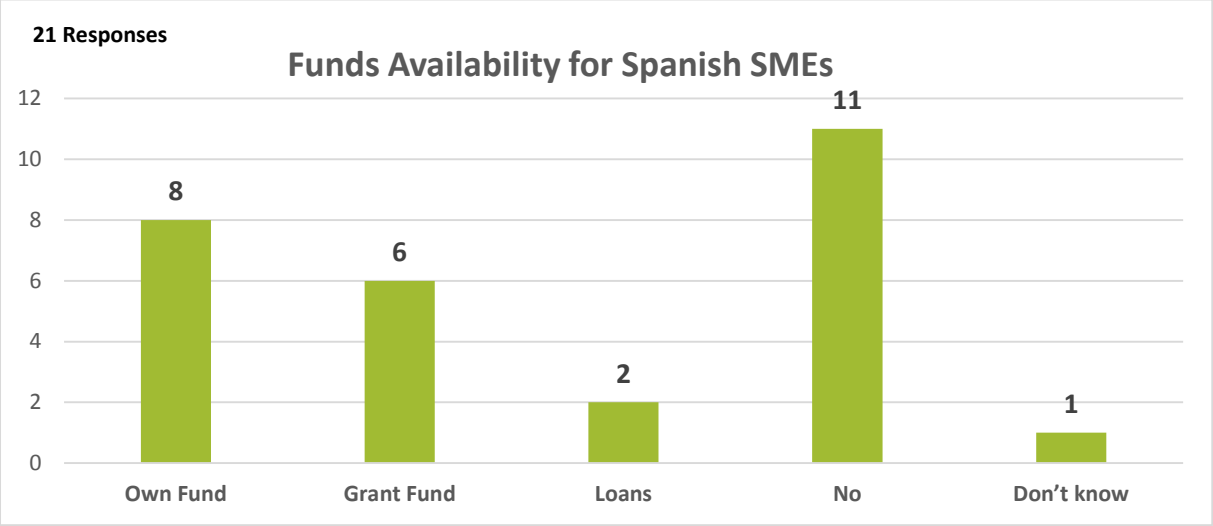
5.3.9 Availability of Funds for SMEs

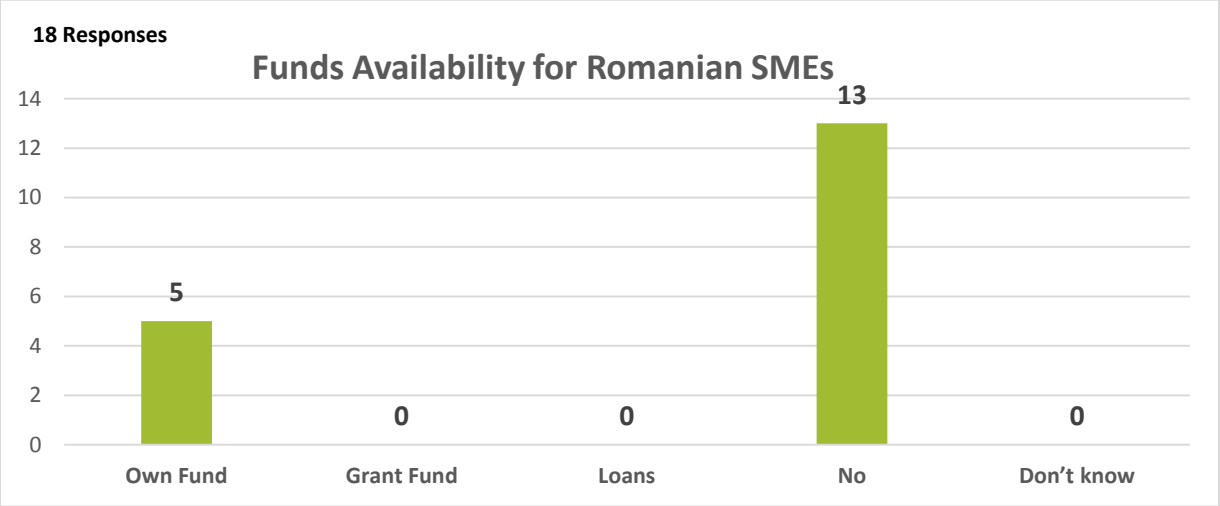
Respondents were asked whether their SME clients had dedicated funds to invest in energy efficiency improvements. Figure 30 shows the range of responses given.

Figure 30: Do the SMEs you have worked with typically have dedicated funds to invest in Energy Efficiency improvements?









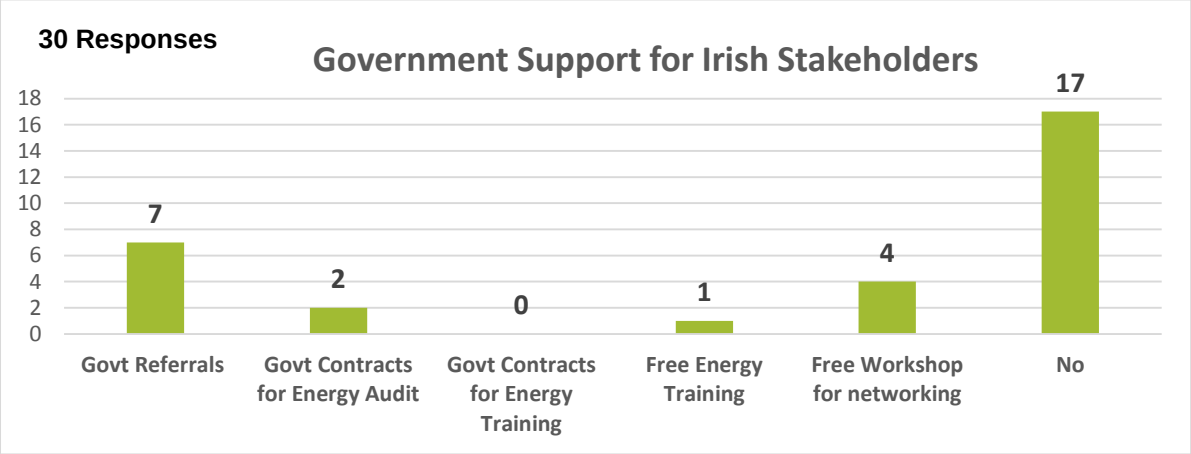
The graphs above show a somewhat mixed response to this question with some energy experts stating that SMEs typically invest with their own funds while others have found that SMEs typically do not have funds available for energy efficiency. The number of stakeholders that have experienced SMEs using grant or loan funding for energy efficiency is small which could indicate a lack of available grant or loan funding in each country, lack of knowledge of grants and loans available, or a conscious decision not to take available grant or loan funding for other reasons.

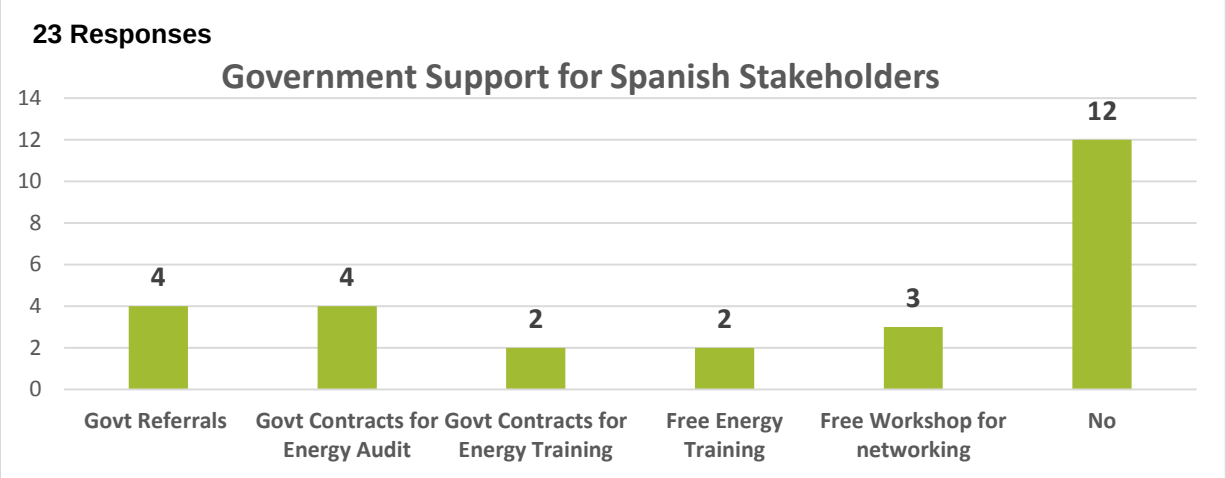
This indicates that there is a great opportunity for SPEEDIER Experts to offer the SPEEDIER self-financing mechanism to SMEs that do not have their own funds available to invest in energy efficiency. SPEEDIER Experts will also be able to advise on grant schemes, tax incentives and low interest loans that are available to SMEs in each country to add to the revolving energy efficiency fund.

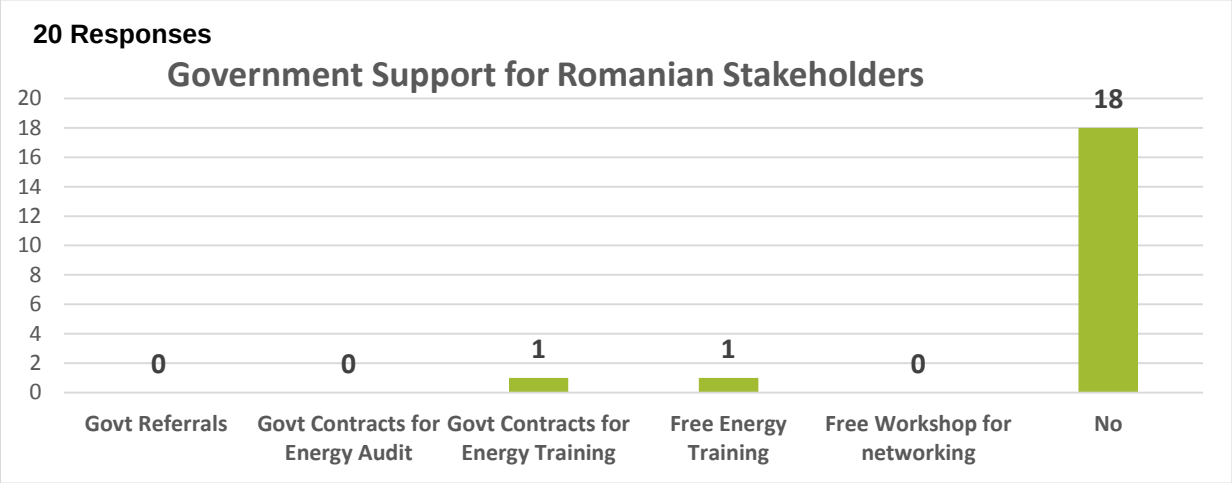
5.3.10 Government Support for Stakeholders

Energy experts were then asked about the availability of local or national Government support for promoting or delivering energy efficiency services for SMEs. Figure 31 summarises the responses from stakeholders in each country.

Figure 31: Do you receive any form of local or national government support to deliver energy auditing or other energy efficiency support services to SMEs?







From the above graphs it is clear that most respondents do not receive any kind of local or national government support to support SMEs to deliver energy auditing or other kinds of energy efficiency support services. A small number of stakeholders stated that they had received referrals, contracts for delivering energy auditing or energy training, free workshops or free training but these are in the minority in all countries. This could indicate that although Member States are obligated to assist SMEs to undertake energy audits under Article 8 if the Energy Efficiency Directive there seem to be few programmes in existence that support energy experts to deliver these services to SMEs.

5.3.11 SME's method of contact

Energy experts were asked to state how SMEs typically contact them to initiate an energy audit. The graphical representation of the responses received is below in Figure 32. This data is also available in table form in Annex 3 - Survey Results Tables.

Figure 32: Thinking about the SMEs that you audited in the last year, what was the MAIN method of contact to request an energy audit?

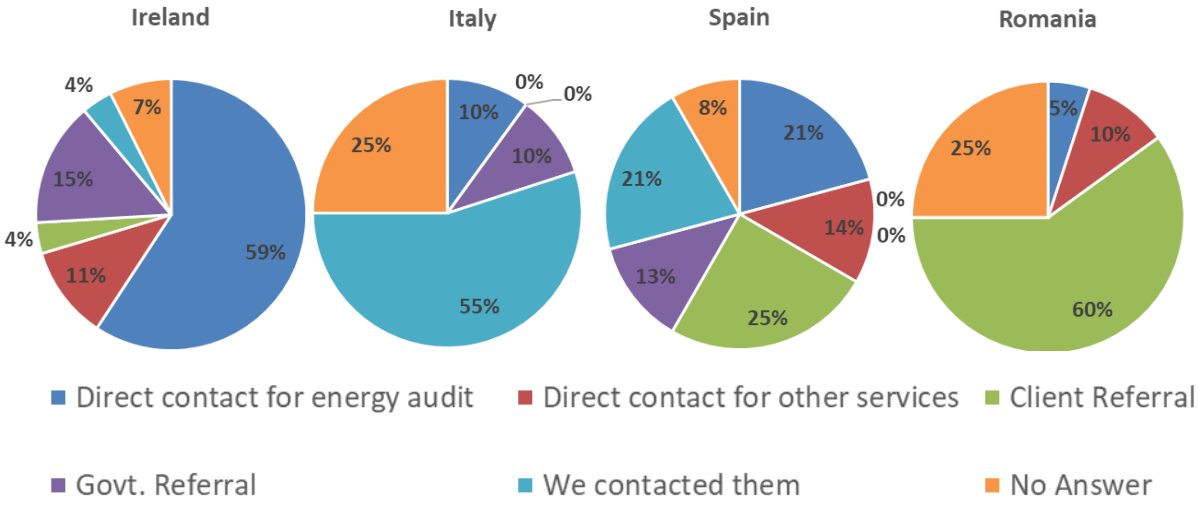


Figure 32 shows that the method of contact with SMEs varies significantly between the pilot countries. In Ireland, SMEs are more likely to contact energy experts directly to engage their services, while in Italy energy experts initiate the contact with SMEs to introduce themselves and their services. In Spain and Romania, client referral is main method of first contact

between energy experts and SMEs indicating the importance of word of mouth in the sales process.

5.4 Summary of financier provider's survey response

The online survey for stakeholders included questions that were specifically targeted towards finance providers. Respondents were directed to these questions only if they selected that their main business activity was financial service. Only one financial services provider responded to the survey (from Spain), so the answers given by that organisation are summarised here:

- The organisation provides financial services for energy efficiency including loans and subsidies.
- More than 50% of applications for financial services in the last year were from SMEs.
- Of all the applications he received from SMEs last year, more than half of the applications were for loan in the range €100k to €250k. Up to 10% of applications were for loan amounts larger that €250k and up to 10% of applications were for loan amounts in the range €10k to €50k.
- In cases where loan applications were rejected, the main reasons for the rejection were:
    - 1. SME did not have good credit rating
    - 2. Incomplete or incorrect completion of loan/grant paper work,
    - 3. Energy saving potential of the project was not clear.
- Out of the reasons for rejection stated above, this particular finance provider stated that main reason was that the energy saving potential of the project was not clear.

This is an interesting learning point for SPEEDIER as one of the roles of the SPEEDIER Experts could be to assist SMEs in making successful grant applications by guiding them through the application process and clearly calculating the energy saving potential of each project.

6 Conclusion

This report summarises the responses received from the SPEEDIER online survey conducted to help understand the market, including the drivers and barriers that could impact the level of uptake of SPEEDIER project.

SMEs and Stakeholders from SPEEDIER pilot countries (Ireland, Italy, Spain, and Romania) were invited through the SPEEDIER social media channels (LinkedIn and Twitter) and the personal networks of the SPEEDIER partners, to participate in the survey and share their views about SMEs attitudes towards energy auditing and implementation of the recommended energy conservation measures.

6.1 Findings from the online survey for SMEs

6.1.1 Ireland

The majority of respondents located in Ireland represented SMEs in the manufacturing sector with less than 250 employees and a turnover of less than €50 million. Around half the respondents work for a business that owns their own premises, while the other half rent all or part of the building they occupy. The remaining questions give the following interesting insights into the market in Ireland and should be used to tailor the SPEEDIER Service to the needs of the Irish market.

- **Cost of energy:** Most of the businesses (65%) were able to state the cost per kWh that they are paying for electricity, which shows that there is good awareness of the cost of electricity to the business. However, the results show that almost one third of businesses are paying more than €0.15/kWh for electricity, indicating that there is significant scope for the SPEEDIER Expert to suggest immediate savings to the business simply by switching to a cheaper tariff. This could be an attractive selling point for the SPEEDIER Service in Ireland as it is a no cost measure that allows the SPEEDIER Expert to make savings immediately with no disruption to the business and begin to build the revolving energy efficiency fund. In contrast, most businesses are unaware of the unit cost of gas, either because there is no gas connection or because there is less awareness of the cost of gas due to the typical unit cost being much lower than electricity (typically €0.01 to €0.06/kWh).

- **Estimated savings:** Assuming that most businesses can reduce energy consumption by approximately one third[3], and using the estimates of annual cost of energy given by survey respondents weighted by the proportion of responses received, it is estimated that Irish SMEs taking part in SPEEDIER could save on average approximately €2,400 per annum. This gives some indication of the value that could be generated to feed the revolving energy efficiency fund each year, assuming the business ring fences all these savings. Gas savings have not been included in this calculation due to the low response rate to the question about the annual cost of gas consumption.

- **Energy Management:** In Ireland, the majority of respondents do not have an energy manager (65%), do not have an energy policy (65%) and do not routinely track their energy consumption (65%). This indicates the low priority nature of energy within these

[3] In the SPEEDIER Description of Work, it was estimated that businesses going through SPEEDIER would save between 14.3% and 45.6% so we have taken an average value of 30% for these calculations.

organisations and presents an opportunity for the SPEEDIER Expert to provide a useful service to the business. However, it also shows that persuading businesses to take up the service could be a challenging task and therefore the project team should use the focus groups to find out more about the key business priorities that would persuade an SME to consider managing their energy consumption.

- **Energy Audits:** 75% of respondents in Ireland stated that they have not had an energy audit in the last 5 years. The reasons for this are unclear and should be identified if possible during the focus group discussions.

- **Implementation of energy efficiency measures:** Despite having not had an energy audit, the SMEs surveyed indicated that they had implemented a range of energy efficiency measures in their organisation. The most commonly installed ECM was LED lighting, followed by upgrades or adjustments to the lighting and heating controls. A few organisations have gone on to implement more expensive and complex ECMs such as upgrading to more efficiency equipment, staff awareness training and building fabric upgrades, but these are much less common. This could indicate that organisations need assistance to implement the more complex and more costly ECMs due to lack of time, knowledge and resources available in-house. It also shows that there is a need for the kind of consultancy advice that could be provided by a SPEEDIER Expert to identify and advise on the implementation of a wider package of ECMs that will result in more significant energy savings.

- **Barriers to energy efficiency:** When asked to state the main barrier to implementing ECMS, the most common answer (35%) was lack of knowledge of which measures to implement and how to procure them. This shows a clear need for the knowledge of a trusted advisor to provide guidance on which package of measures is most appropriate for each business. This is a role that could be fulfilled by the SPEEDIER Expert.

- **Funds available:** 55% of Irish SMEs stated that they do not have dedicated funds available to invest in energy efficiency improvements to their business. This shows both the low priority nature of energy within many businesses and the need for a financing mechanism to fund the installation of ECMs.

- **Outsourcing Energy Management:** 60% of Irish businesses stated that they would be happy to outsource energy management to an energy expert either as a service that they paid for (25%) or if it were offered to them free of charge (35%). While this indicates that there is appetite among Irish SMEs to outsource energy management to a service like SPEEDIER, there is still a significant proportion (40%) that stated that they would not be prepared to outsource, and preferred to keep energy management in-house. The reasons for this are unclear and should be considered as part of the focus group discussions.

6.1.2 Italy

The survey respondents located in Italy were predominantly split between the manufacturing (30%), services (25%), commercial (15%) and hospitality (10%) sectors. A range of business sizes were represented but around 75% of respondents could be classed as SMEs with fewer than 250 employees, while 25% of respondents represent large enterprises. In terms of turnover, Italian respondents had a higher proportion of larger businesses compared to the other countries with 35% of respondents coming from a business with a turnover of more than

€50 million per annum. 60% of respondents work for a business that owns their own premises, while 40% rent all or part of the building they occupy. The remaining questions give the following interesting insights into the market in Italy and should be used to tailor the SPEEDIER Service to the needs of the Italian market.

- **Cost of energy:** Most of the businesses (75%) were able to state the cost per kWh that they are paying for electricity, which shows that there is good awareness of the cost of electricity to the business. However, the results show that just over one third of businesses are paying more than €0.15/kWh for electricity, indicating that there is significant scope for the SPEEDIER Expert to suggest immediate savings to the business simply by switching to a cheaper tariff. This could be an attractive selling point for the SPEEDIER Service in Italy as it is a no cost measure that allows the SPEEDIER Expert to make savings immediately with no disruption to the business and begin to build the revolving energy efficiency fund. In contrast, most businesses (75%) are unaware of the unit cost of gas, either because there is no gas connection or because there is less awareness of the cost of gas due to the typical unit cost being much lower than electricity (typically €0.01 to €0.06/kWh).

- **Estimated savings:** Assuming that most businesses can reduce electricity consumption by approximately one third[4], and using the estimates of annual cost of energy given by survey respondents weighted by the proportion of responses received, it is estimated that Italian SMEs taking part in SPEEDIER could save on average approximately €3,500 per annum. This gives some indication of the value that could be generated to feed the revolving energy efficiency fund each year, assuming the business ring fences all these savings. It is the highest average annual saving of all the pilot regions and this is mainly due to the higher proportion of respondents representing larger businesses that have higher annual electricity bills. Gas savings have not been included in this calculation due to the low response rate to the question about the annual cost of gas consumption.

- **Energy Management:** In Italy, the majority of respondents do not have an energy manager (70%), do not have an energy policy (60%) and do not routinely track their energy consumption (60%). This indicates the low priority nature of energy within these organisations and presents an opportunity for the SPEEDIER Expert to provide a useful service to the business. However, it also shows that persuading businesses to take up the service could be a challenging task and therefore the project team should use the focus groups to find out more about the key business priorities that would persuade an SME to consider managing their energy consumption.

- **Energy Audits:** 55% of respondents in Italy stated that they have not had an energy audit in the last 5 years. The reasons for this are unclear and should be identified if possible during the focus group discussions.

- **Implementation of energy efficiency measures:** Despite having not had an energy audit, the SMEs surveyed indicated that they had implemented a range of energy efficiency measures in their organisation. The most commonly installed ECM was LED lighting, followed by upgrades or adjustments to the lighting and heating controls. A

[4] In the SPEEDIER Description of Work, it was estimated that businesses going through SPEEDIER would save between 14.3% and 45.6% so we have taken an average value of 30% for these calculations.

few organisations have gone on to implement more expensive and complex ECMs such as upgrading to more efficiency equipment, staff awareness training and building fabric upgrades, but these are much less common. This could indicate that organisations need assistance to implement the more complex and more costly ECMs due to lack of time, knowledge and resources available in-house. It also shows that there is a need for the kind of consultancy advice that could be provided by a SPEEDIER Expert to identify and advise on the implementation of a wider package of ECMs that will result in more significant energy savings.

- **Barriers to energy efficiency:** When asked to state the main barrier to implementing ECMS, the most common answer (35%) was lack of finance. This shows a clear need for a financing mechanism, such as the SPEEDIER self-financing mechanism, to support the implementation of ECMs in Italy.

- **Funds available:** 55% of Italian SMEs stated that they do not have dedicated funds available to invest in energy efficiency improvements to their business. This shows both the low priority nature of energy within many businesses and the need for a financing mechanism to fund the installation of ECMs.

- **Outsourcing Energy Management:** 70% of Italian businesses stated that they would be happy to outsource energy management to an energy expert either as a service that they paid for (20%) or if it were offered to them free of charge (50%).This indicates that there is appetite among Italian businesses to outsource energy management to a service like SPEEDIER. To attract the most participants, it is important to position the service as a free of charge, self-financing option, rather than trying to persuade the business to fund parts of the service themselves. This supports the earlier finding that shows that Italian businesses consider lack of finance to be the main barrier to uptake of energy efficiency measures.

6.1.3 Spain

The survey respondents located in Spain were split between services (32%) and energy (10%) with the remaining respondents selecting the 'other' category and indicating a diverse range of business sectors. Most respondents represented small SMEs with over 71% coming from businesses with less than 25 employees and 90% of respondents representing a business with an annual turnover of less than €10 million. 76% of respondents work for a business that rents part of the building they occupy which is mainly due to the fact that most engagement activities took place on the Cartuja Science and Technology Park, the focus of the Spanish pilot site. The remaining questions give the following interesting insights into the market in Spain and should be used to tailor the SPEEDIER Service to the needs of the Spanish pilot site.

- **Cost of energy:** 57% of respondents were unable to answer or preferred not to answer the question on the unit cost of electricity. The reasons for this are unclear and should be investigated further as part of the focus group discussions. It may be that energy costs are a low priority for these businesses because of their size or that most respondents represent a business that rents a building where the cost of energy is included in the rental value. This could present a problem for SPEEDIER as it shows there is low awareness of the cost of energy and therefore it could be difficult to persuade SMEs to engage with the programme. A different approach may be needed in Spain compared to the other pilot sites.

- **Estimated savings:** More than 57% of Spanish businesses either did not know or would not give an answer to estimate the annual cost of electricity to their business. As a result, it has not been possible to calculate an estimate of the likely annual energy savings that SPEEDIER may be able to achieve. This confirms the previous findings and again highlights the need for SPEEDIER to take a different approach at the Spanish pilot site to reflect the differences in dealing with small SMEs that do not own their business premises.

- **Energy Management:** In Spain, the majority of respondents do not have an energy manager (71%), do not have an energy policy (67%) and do not routinely track their energy consumption (52%). This indicates the low priority nature of energy within these organisations and presents an opportunity for the SPEEDIER Expert to provide a useful service to the business. However, it also shows that persuading businesses to take up the service could be a challenging task and therefore the project team should use the focus groups to find out more about the key business priorities that would persuade an SME to consider managing their energy consumption.

- **Energy Audits:** 62% of respondents in Spain stated that they have not had an energy audit in the last 5 years. The reasons for this are unclear and should be identified if possible during the focus group discussions.

- **Implementation of energy efficiency measures:** Despite having not had an energy audit, the SMEs surveyed indicated that they had implemented a range of energy efficiency measures in their organisation. The most commonly installed ECM was LED lighting, followed by upgrades to HVAC controls. Less than 4 organisations have gone on to implement more expensive and complex ECMs such as upgrading to more efficiency equipment, staff awareness training and building fabric upgrades. These results are as expected since there is a high proportion of businesses that occupy rented premises in this cohort and these organisations are unlikely to have control over the HVAC equipment or building fabric. This again highlights the importance of taking a different approach to the SPEEDIER Service for businesses that are small and rent the building they occupy.

- **Barriers to energy efficiency:** When asked to state the main barrier to implementing ECMS, the most common answer (28%) was lack of finance. This shows a clear need for a financing mechanism, such as the SPEEDIER self-financing mechanism, to support the implementation of ECMs in Spain.

- **Funds available:** 71% of Spanish SMEs stated that they do not have dedicated funds available to invest in energy efficiency improvements to their business. This shows both the low priority nature of energy within many businesses and the need for a financing mechanism to fund the installation of ECMs, particularly for smaller businesses.

- **Outsourcing Energy Management:** 38% of Spanish businesses stated that they would be happy to outsource energy management to an energy expert either as a service that they paid for (19%) or if it were offered to them free of charge (19%). More significant is the proportion of businesses that would not consider outsourcing energy management (43%). It is unclear from this survey whether this is a reflection of opinions and attitudes of business owners in Spain, or due to the high proportion of

small business owners that rent their business premises in this cohort so this should be investigated as part of the focus group discussions. However, the result does indicate that the SPEEDIER Service may need to be marketed in Spain as a paid for service to ensure that businesses feel they are getting value from it.

6.1.4 Romania

The majority of respondents located in Romania represented SMEs in the hospitality sector with less than 100 employees and a turnover of less than €25 million. Most of the respondents work for a business that owns their own premises (57%), while the rest rent all or part of the building they occupy. The remaining questions give the following interesting insights into the market in Romania and should be used to tailor the SPEEDIER Service to the needs of the Romanian market.

- **Cost of energy:** Most of the businesses (91%) chose not to answer the question on the unit cost of electricity or gas. It is unclear why this is the case, but it could indicate a lack of awareness of the cost of energy or the low priority nature of energy for small businesses in the hospitality sector.

- **Estimated savings:** Assuming that most businesses can reduce electricity consumption by approximately one third[5], and using the estimates of annual cost of energy given by survey respondents weighted by the proportion of responses received, it is estimated that Romanian SMEs taking part in SPEEDIER could save on average approximately €1,600 per annum. This gives some indication of the value that could be generated to feed the revolving energy efficiency fund each year, assuming the business ring fences all these savings. It is the lowest average annual saving of all the pilot regions and this is mainly due to the higher proportion of respondents representing smaller businesses that have smaller annual electricity bills. Gas savings have not been included in this calculation due to the low response rate to the question about the annual cost of gas consumption.

- **Energy Management:** In Romania, the majority of respondents do not have an energy manager (91%), and do not have an energy policy (61%). Only 9% of respondents stated that they have set targets for reducing the energy consumption of their business. This indicates the low priority nature of energy within these organisations and presents an opportunity for the SPEEDIER Expert to provide a useful service to the business. However, it also shows that persuading businesses to take up the service could be a challenging task and therefore the project team should use the focus groups to find out more about the key business priorities that would persuade an SME to consider managing their energy consumption.

- **Energy Audits:** 65% of respondents in Romania stated that they have not had an energy audit in the last 5 years. The reasons for this are unclear and should be identified if possible during the focus group discussions.

- **Implementation of energy efficiency measures:** In Romania the proportion of businesses that reported implementing energy efficiency measures is very low at only 13%. Those that had implemented measures stated that they have upgraded to LED

[5] In the SPEEDIER Description of Work, it was estimated that businesses going through SPEEDIER would save between 14.3% and 45.6% so we have taken an average value of 30% for these calculations.

lights but no other ECMs were implemented. The majority of respondents had not implemented any ECMs at all (30%) or didn't know if any had been implemented (57%). This indicates that energy efficiency is a low priority for most Romanian SMEs in the hospitality sector. The finding presents a huge opportunity for SPEEDIER as there is clearly a lot of energy saving potential in this sector, but persuading businesses to engage with SPEEDIER could be the biggest challenge if energy is seen as a low priority.

- **Barriers to energy efficiency:** When asked to state the main barrier to implementing ECMS, the most common answer (57%) was lack of finance. This shows a clear need for a financing mechanism, such as the SPEEDIER self-financing mechanism, to support the implementation of ECMs in Romania.

- **Funds available:** 52% of Romanian SMEs stated that they do not have dedicated funds available to invest in energy efficiency improvements to their business. This shows both the low priority nature of energy within many businesses and the need for a financing mechanism to fund the installation of ECMs.

- **Outsourcing Energy Management:** 96% of Romanian businesses stated that they would be happy to outsource energy management to an energy expert either as a service that they paid for (74%) or if it were offered to them free of charge (22%).This indicates that there is appetite among Romanian businesses to outsource energy management to a service like SPEEDIER. To attract the most participants, it is important to consider asking SMEs to pay for the services of the SPEEDIER Expert, either as a flat fee or as a percentage of the savings identified.

6.2 Findings from the online survey for stakeholders

6.2.1 Ireland

The majority of respondents that completed the SPEEDIER stakeholder survey in Ireland were energy experts (82%). No ESCOs responded to the survey which reflects the very small ESCO market in Ireland. The main findings from the stakeholder survey are given below.

- **Energy auditing:** For almost half of the stakeholders surveyed (48%), energy auditing makes up less than one quarter of annual turnover. When considered in the context of the other services that energy experts stated that they deliver (as discussed in Section 5.3.2) this is not a surprising finding as the energy audit is likely to form part of a package of services, or be a small piece of work that leads to a larger contract. 22% of energy experts did not audit any SME sites in the last year while a further 26% stated that their energy audit clients were mainly SMEs. This indicates that there is already a reasonable level of engagement between energy experts and SMEs in Ireland, but there is potential for improvement and the SPEEDIER Service could be presented as one way for experts to broaden their service offering.

- **ECM implementation:** The proportion of SMEs that went on to implement the ECMs recommended by the energy experts varied considerably with 4% of experts estimating that less than 1 in 10 SMEs that they audit go on to implement ECMs, 22% estimating that more than half of SMEs go on to implement ECMs and 22% stating that they don't know whether or not SMEs have implemented ECMs.

- **Challenges and barriers:** The majority (52%) of energy experts in Ireland believe that lack of finance is the main barrier to implementation of ECMs for SMEs. This differs from the opinions of the SMEs that were surveyed in Ireland, who indicated that lack of knowledge is the main barrier. This shows a discrepancy between the perceived and actual barriers to uptake of energy efficiency measures in Ireland. The SPEEDIER training for experts should highlight this difference in order to ensure that SPEEDIER Experts present the Service to SMEs in a way that attracts them to participate.

- **Government support:** Most energy experts have not received any form of government support to carry out energy audits or assist SMEs to implement energy efficiency measures. The small number of respondents that stated that they had received some support mainly received referrals from a local or national government scheme or attended free events that allowed them to network with SMEs to promote their own services. This indicates that despite the requirement in Article 8 of the Energy Efficiency Directive to develop support schemes to assist SMEs to carry out energy audits, such schemes either do not yet exist in Ireland, are not well advertised to energy experts or are not fit for purpose.

- **Method of contact:** The majority (59%) of energy experts in Ireland stated that the SMEs they had worked with contacted them directly to ask for an energy audit. This is an important result as it indicates that marketing SPEEDIER directly to SMEs in Ireland and signposting them to the register of SPEEDIER Experts could be an effective method of engaging SMEs.

6.2.2 Italy

Respondents to the SPEEDIER survey of stakeholders in Italy were mainly split between energy experts (50%) and ESCOs (30%). This is a reflection of the large number of ESCOs operating in Italy. The main findings from the stakeholder survey are given below.

- **Energy auditing:** For 25% of the stakeholders surveyed, energy auditing makes up less than a quarter of annual turnover. In contrast, when compared to the number of sites belonging to SMEs that were audited, 60% of respondents stated that more than half of the audits carried out were delivered for an SME. This is a reflection of the large number of ESCOs in this stakeholder cohort for whom the energy audit is a very small proportion of a larger project that is likely to include capital works. It also indicates the importance of the ESCO market in Italy for delivering energy audits to SMEs and SPEEDIER should aim to engage with ESCOs in Italy and present SPEEDIER to them as a method of attracting more clients.

- **ECM implementation:** The proportion of SMEs that went on to implement the ECMs recommended by the energy experts varied considerably with 10% of experts estimating that less than 1 in 10 SMEs that they audit go on to implement ECMs, 15% estimating that more than half of SMEs go on to implement ECMs and 20% stating that they don't know whether or not SMEs have implemented ECMs.

- **Challenges and barriers:** The majority (55%) of survey respondents in Italy believe that lack of finance is the main barrier to implementation of ECMs for SMEs. This matches the opinion of the SMEs that were surveyed. There is therefore an opportunity to present the SPEEDIER self-financing mechanism as a way for ESCOs and energy

experts to overcome this barrier when dealing with SMEs and differentiate themselves from others in an already crowded market.

- **Government support:** Most survey respondents have not received any form of government support to carry out energy audits or assist SMEs to implement energy efficiency measures. The small number of respondents that stated that they had received some support mainly received referrals, or attended free events that allowed them to network with SMEs to promote their own services. This indicates that despite the requirement in Article 8 of the Energy Efficiency Directive to develop support schemes to assist SMEs to carry out energy audits, such schemes either do not yet exist in Italy, are not well advertised to energy experts or are not fit for purpose.

- **Method of contact:** The majority (55%) of survey respondents in Italy stated that they contacted the SMEs they had worked directly to offer their services. This is an important difference compared to other countries and indicates that in Italy the best way to reach SMEs may be by leveraging the sales pipeline and marketing efforts of energy experts and ESCOs.

6.2.3 Spain

Respondents to the SPEEDIER survey of stakeholders in Spain were mainly split between energy experts (64%) and Others (25%). The main findings from the stakeholder survey are given below.

- **Energy auditing:** For almost half of the stakeholders surveyed (46%), energy auditing makes up less than 10% of annual turnover. When considered in the context of the other services that energy experts stated that they deliver (as discussed in Section 5.3.2) this is not a surprising finding as the energy audit is likely to form part of a package of services, or be a small piece of work that leads to a larger contract. 17% of energy experts did not audit any SME sites in the last year while a further 25% stated that their energy audit clients were mainly SMEs. This indicates that there is already a reasonable level of engagement between energy experts and SMEs in Spain, but there is potential for improvement and the SPEEDIER Service could be presented as one way for experts to broaden their service offering.

- **ECM implementation:** The proportion of SMEs that went on to implement the ECMs recommended by the energy experts varied considerably with 17% of experts estimating that less than 1 in 10 SMEs that they audit go on to implement ECMs, 8% estimating that more than half of SMEs go on to implement ECMs and 25% stating that they don't know whether or not SMEs have implemented ECMs.

- **Challenges and barriers:** 42% of survey respondents in Spain believe that the low priority nature of energy efficiency is the main barrier to implementation of ECMs for SMEs, closely followed by lack of finance at 37%. This differs from the opinion of the SMEs that were surveyed, where lack of finance was most commonly cited as the main barrier. This shows a discrepancy between the perceived and actual barriers to uptake of energy efficiency measures in Spain. The SPEEDIER training for experts should highlight this difference in order to ensure that SPEEDIER Experts present the Service to SMEs in a way that attracts them to participate.

- **Government support:** Most survey respondents have not received any form of government support to carry out energy audits or assist SMEs to implement energy

efficiency measures. A small number of respondents stated that they had received referrals from a local or national government support scheme or had attended free events that allowed them to network with SMEs to promote their own services. This indicates that despite the requirement in Article 8 of the Energy Efficiency Directive to develop support schemes to assist SMEs to carry out energy audits, such schemes are not commonly deployed, are not well advertised to energy experts or are not fit for purpose.

- **Method of contact:** Survey respondents in Spain use a variety of methods to contact SMEs and the responses indicate that there is preferred method, with the responses being split fairly evenly between all the survey options. This could indicate that the approach to contacting and recruiting SMEs to SPEEDIER may need to be flexible, so that it can be tailored according to the situation.

6.2.4 Romania

Respondents to the SPEEDIER survey of stakeholders in Romania mainly represented energy experts (55%) with the remaining respondents split evenly between the other categories (ESCOs, landlords, providers of energy efficient technologies and others). The main findings from the stakeholder survey are given below.

- **Energy auditing:** For almost one third of the stakeholders surveyed (30%), energy auditing makes up less than 10% of annual turnover. When considered in the context of the other services that energy experts stated that they deliver (as discussed in Section 5.3.2) this is not a surprising finding as the energy audit is likely to form part of a package of services, or be a small piece of work that leads to a larger contract. 20% of energy experts did not audit any SME sites in the last year while a further 20% stated that their energy audit clients were mainly SMEs. This indicates that there is already a reasonable level of engagement between energy experts and SMEs in Romania, but there is potential for improvement and the SPEEDIER Service could be presented as one way for experts to broaden their service offering.

- **ECM implementation:** The proportion of SMEs that went on to implement the ECMs recommended by the energy experts is the lowest of all the pilot regions with 40% of experts estimating that less than 1 in 10 SMEs that they audit go on to implement ECMs. This could indicate that the barriers to implementation of ECMs are more prevalent in Romania compared to the other countries. It is an important opportunity for SPEEDIER as the structured nature of the SPEEDIER Service could assist energy experts to overcome the barriers and increase the rate of implementation of ECMs post-audit.

- **Challenges and barriers:** The largest proportion (40%) of survey respondents in Romania believe that lack of finance is the main barrier to implementation of ECMs for SMEs. This matches the opinion of the SMEs that were surveyed. Highlighting the self-financing nature of SPEEDIER could be an effective way to engage both SMEs and Experts in the SPEEDIER Service.

- **Government support:** Most survey respondents have not received any form of government support to carry out energy audits or assist SMEs to implement energy efficiency measures. Only two respondents stated that they had received free energy training or a government contract for delivering energy training. This indicates that

despite the requirement in Article 8 of the Energy Efficiency Directive to develop support schemes to assist SMEs to carry out energy audits, such schemes are not commonly deployed in Romania, are not well advertised to energy experts or are not fit for purpose.

- **Method of contact:** The majority (60%) of survey respondents in Romania stated that SMEs were referred to them by other clients. This is an important difference compared to other countries and indicates that in Romania the best way to reach SMEs may be through word-of-mouth and cross referrals from trusted partners. It may be possible to consider offering SMEs some kind of benefit (financial or otherwise) in exchange for referrals to build up the group of SMEs participating in SPEEDIER.

6.3 Next steps

These results give some interesting insights into the state of energy auditing and implementation of ECMs in the four SPEEDIER pilot regions. They will be supplemented by focus groups with SMEs and Energy Experts to which will aim to give more depth to the results and examine some of the reasons for the opinions and attitudes identified in more detail. The findings of the focus groups will be summarised in Deliverable 2.4. The results of this survey will also feed into Task 2.5 and Deliverable 2.5 Recommendations for the SPEEDIER Service, which will draw together all of the findings from the activities in Work Package 2 and recommend how the SPEEDIER Service should be refined to ensure that it maximises its reach and impact.

Work Package 4 will also draw heavily on these results. Task 4.1 and Deliverable 4.1 which will define the SPEEDIER Service in detail, will suggest any variations in SPEEDIER Service that are necessary between the pilot countries based on the learning points from this survey. The Service Definition will outline which parts of the service should be emphasised or modified to accommodate the different preferences in each pilot region, for example, the differences relating to whether the service is offered free of charge or for a fee, and whether the fee is a flat service charge or linked to savings with a performance guarantee.

Training packages for SMEs and SPEEDIER Experts will be developed in WP4 and these survey results could heavily inform their content. SPEEDIER Experts should be made aware of the main challenges and barriers to ECM implementation as perceived by SMEs, and their likely preferences in terms of service fees to ensure that they deliver the most appropriate, tailored service to the businesses with which they engage.

Annex-1 Online Survey Questions for SMEs

Section 1: SPEEDIER Online Survey Information Sheet

Thank you for considering participating in the SPEEDIER project! The purpose of this study is to gain an understanding of the market for energy auditing, including the drivers and barriers that could impact on the level of uptake of energy audits and subsequent implementation of energy efficiency measures. If you are happy to participate, please complete the following questionnaire, which will include items on any past experiences you have had with energy auditing and any plans for future implementation of energy conservation measures.

Participation in this study is completely voluntary and you can choose not to answer specific questions. We won't ask for any personal information or contact details and IP addresses will not be collected at any point so your answers will be anonymous and cannot be traced back to you. You have the right to withdraw from the study at any stage up to the point at which you click the submit button. At this point your data will be collated with that of other participants and can no longer be retracted. To withdraw, simply close this form.

The anonymous data will be stored on the IERCs Projects Drive on the servers of the Tyndall National Institute which is part of University College Cork, Ireland. The data will be stored for ten years. The information you provide may contribute to research reports, research publications and/or conference presentations delivered by the SPEEDIER project team.

This study has obtained ethical approval from the UCC Social Research Ethics Committee.
If you have any queries about this research, you can contact the SPEEDIER Project Coordinator at info@speedierproject.eu.

Section 2: Company Information (All questions mandatory to answer in section-2)

1. In which country is your business located? (Multiple Choice)

- ☐ Austria
- ☐ Belgium
- ☐ Bulgaria
- ☐ Croatia
- ☐ Cyprus
- ☐ Czechia
- ☐ Denmark
- ☐ Estonia
- ☐ Finland
- ☐ France
- ☐ Germany
- ☐ Greece
- ☐ Hungary
- ☐ Ireland
- ☐ Italy
- ☐ Latvia
- ☐ Lithuania
- ☐ Luxembourg
- ☐ Malta
- ☐ Netherland
- ☐ Poland
- ☐ Portugal
- ☐ Romania
- ☐ Slovakia
- ☐ Slovenia
- ☐ Spain
- ☐ Sweden
- ☐ United Kingdom
- ☐ Others (Please Specify)

2. In which sector does your business operate? (Multiple Choice)

- ☐ Hospitality
- ☐ Education
- ☐ Manufacturing
- ☐ Commercial
- ☐ Retail
- ☐ Services
- ☐ Energy
- ☐ Research
- ☐ Other (please specify)

3. Approximate number of employees (Multiple Choice)

- ☐ 0-25
- ☐ 25-50
- ☐ 50-100
- ☐ 100-250
- ☐ More than 250

4. Approximate turnover (in Euros) of your business last year (Multiple Choice)

- ☐ 0-1 million euros
- ☐ 1-10 million euros
- ☐ 10-25 million euros
- ☐ 25-50 million euros
- ☐ More than 50 million euros

5. Which of these best describes the ownership of your business premises? (Multiple Choice)

- ☐ We own and occupy the building(s) (owner occupier)
- ☐ We rent an entire building that is owned by someone else (tenant)
- ☐ Other (please specify)

Section 3: Energy consumption

6. If you know it, please tell us how much you pay per kWh of energy consumed for electricity.(om average) (Multiple Choice)

- ☐ 5-10 cents/kWh
- ☐ 10-15 cents/kWh
- ☐ 15-20 cents/kWh
- ☐ 20-25 cents/kWh

7. If you know it, please tell us how much you pay per kWh of energy consumed for natural gas. (Multiple Choice)

- ☐ 0-2 cents/kWh
- ☐ 2-4 cents/kWh
- ☐ 4-6 cents/kWh
- ☐ 6-8 cents/kWh

8. If you know it, please tell us the approximate amount that your business spends annually on the types of energy listed below (Please select all that apply) (Multiple Choice Table

	Don't know	Don't Use	€0-€1k	€1k-€5k	€5k-€10k	More than €10k
Electricity	☐	☐	☐	☐	☐	☐
Natural Gas	☐	☐	☐	☐	☐	☐
LPG	☐	☐	☐	☐	☐	☐
Oil	☐	☐	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐	☐	☐

9. What are the main uses of energy use within your business (please select all that apply) (Check Box)

- ☐ Lighting
- ☐ Heating/Cooling/Ventilation
- ☐ Office Equipment
- ☐ Water Treatment

- ☐ Industrial Process
- ☐ Food preparation
- ☐ I don't know
- ☐ Other (please specify)

Section 4: Energy Management

10. Does your organisation have an Energy Manager? (Multiple Choice)
    - ☐ Yes - dedicated energy manager,
    - ☐ Yes, combined with another role (e.g. Health & Safety)
    - ☐ No
    - ☐ I don't know

11. Does your organisation have an energy policy? (Multiple Choice)
    - ☐ Yes
    - ☐ No
    - ☐ I don't know

12. Have you set any targets for reducing energy consumption in your organisation? (Multiple Choice)
    - ☐ Yes
    - ☐ No
    - ☐ I don't know

13. How do you track the energy usage of your organisation? (Check Box)
    - ☐ We look at paper or e-Bills
    - ☐ We track energy consumption using a spreadsheet
    - ☐ We track energy consumption using other software that we pay for
    - ☐ We track energy consumption using our accounting system
    - ☐ We don't track energy consumption
    - ☐ I don't know
    - ☐ Other (please specify)

14. Has your business had an energy audit in the last 5 years? (Multiple Choice)
    - ☐ Yes – the audit was carried out internally by a member of staff
    - ☐ Yes – the audit was carried out free of charge by an external consultant
    - ☐ Yes – we paid an external consultant to do the audit

☐ No

☐ I don't know

*** If yes, complete question 15. If no or I don't know, go straight to question 18.

Section 5: Energy Audit

15. Did you implement any of the energy conservation measures recommended by the energy audit? (Multiple Choice)

☐ Yes

☐ No

☐ I don't know

*** If yes go to question 16. If no or I don't know go to question 18.

Section 6: Implementing Recommendations from Energy Audit

16. Which of these energy conservation measures did you implement as a result of the energy audit? (Please select all that apply and specify any others that are not on the list) (Check Box)

☐ Installed LED lights

☐ Upgraded lighting controls (e.g. install occupancy or daylight sensors)

☐ Upgraded heating/cooling controls (e.g. install timers or thermostats)

☐ Adjusted heating/cooling controls (e.g. reduced heating set point temperature or changed timer settings to reduce system run hours)

☐ Install variable speed drives (e.g. on pumps or fans)

☐ Replace old heating/cooling equipment with a more efficient upgrade (e.g. install new boiler or heat pump technology)

☐ Implemented a staff energy awareness programme

☐ Install solar PV

☐ Install heat recovery

☐ Upgrade building fabric (e.g. install insulation, replace windows and doors)

☐ Draught proofing

☐ I don't know

☐ Other (please specify)

*** Now go to question 17

Section 7: Implementing other Energy Efficiency Measures

17. Did you implement any other energy conservation measures that were not identified by the energy audit? (Please select all that apply and specify any others that are not on the list) (Check Box)

- ☐ Installed LED lights
- ☐ Upgraded lighting controls (e.g. install occupancy or daylight sensors)
- ☐ Upgraded heating/cooling controls (e.g. install timers or thermostats)
- ☐ Adjusted heating/cooling controls (e.g. reduced heating set point temperature or changed timer settings to reduce system run hours)
- ☐ Install variable speed drives (e.g. on pumps or fans)
- ☐ Replace old heating/cooling equipment with a more efficient upgrade (e.g. install new boiler or heat pump technology)
- ☐ Implemented a staff energy awareness programme
- ☐ Install solar PV
- ☐ Install heat recovery
- ☐ Upgrade building fabric (e.g. install insulation, replace windows and doors)
- ☐ Draught proofing
- ☐ Other (please specify)
- ☐ I don't know
- ☐ No other energy conservation measures

*** Now go to question 19

Section 8: Implementing Energy Efficiency Measures

18. Which of these energy conservation measures have you already implemented in your organisation? (Please select all that apply and specify any others that are not on the list) (Check Box)

- ☐ Installed LED lights
- ☐ Upgraded lighting controls (e.g. install occupancy or daylight sensors)
- ☐ Upgraded heating/cooling controls (e.g. install timers or thermostats)
- ☐ Adjusted heating/cooling controls (e.g. reduced heating set point temperature or changed timer settings to reduce system run hours)
- ☐ Install variable speed drives (e.g. on pumps or fans)
- ☐ Replace old heating/cooling equipment with a more efficient upgrade (e.g. install new boiler or heat pump technology)
- ☐ Implemented a staff energy awareness programme
- ☐ Install solar PV
- ☐ Install heat recovery
- ☐ Upgrade building fabric (e.g. install insulation, replace windows and doors)

☐ Draught proofing
☐ Other (please specify)

☐ I don't know
☐ We have not implemented any energy conservation measures

Section 9: Challenges and Barriers

19. What challenges or barriers prevent you from implementing Energy Conservation Measures? (Please select all that apply) (Check Box)

☐ Lack of finance
☐ Uncertainty/lack of knowledge on what measures to implement
☐ Uncertainty/lack of knowledge on how to procure energy conservation measures
☐ Lack of time to implement
☐ No control of building (landlord does not allow it)
☐ Energy saving is not a priority for my business
☐ Other (please specify)
☐ None, I have been able to implement all the measures I need

20. Of the barriers you identified above, please select the ONE that you consider to be the MAIN barrier to implementing energy conservation measures? (Multiple Choice)

☐ Lack of finance
☐ Uncertainty/lack of knowledge on what measures to implement
☐ Uncertainty/lack of knowledge on how to procure energy conservation measures
☐ Lack of time to implement
☐ No control of building
☐ Energy saving is not a priority for my business
☐ Other (please specify)
☐ None, I have been able to implement all the measures I need

Section 10: Financing for Energy Efficiency

21. Do you have dedicated funds for investing in Energy Efficiency improvements? (Check Box)

☐ Yes – Own Funds

☐ Yes – Grant Funds (please specify which grant)

☐ Yes – Bank loan

☐ Yes – Other loan (please specify)

☐ Yes – Other (please specify)

☐ I don't know

☐ No

22. Have you ever received any government support or incentives to help you to implement Energy Conservation Measures? (Check Box)

☐ Yes – Free energy audit

☐ Yes – Grant to install energy efficient equipment

☐ Yes – Interest free or low interest loan for equipment

☐ Yes – Free training on energy auditing

☐ Yes – Free training on energy efficiency

☐ Yes – Information on how to implement energy conservation measures

☐ Yes – Free consultancy support or advice

☐ Yes – tax incentive for installing energy efficient equipment

☐ I don't know

☐ No

23. Would you be happy to outsource energy management of your building to an energy expert whose role is to advise on which are the best energy conservation measures to implement in your business and manage the implementation of these measures? (Multiple Choice)

☐ Yes – if it was offered free of charge and endorsed by a local or national government scheme

☐ Yes – and I would be happy to pay the expert a portion of the energy savings made

☐ Yes – and I would be happy to pay for this service

☐ No – I would prefer to keep energy management in house

Annex-2 Online Survey Questions for Stakeholders

SPEEDIER Survey for Stakeholders in the energy efficiency value chain

Section 1: SPEEDIER Online Survey Information Sheet

Thank you for considering participating in the SPEEDIER project! The purpose of this study is to gain an understanding of the market for energy auditing, including the drivers and barriers that could impact on the level of uptake of energy audits and subsequent implementation of energy efficiency measures. If you are happy to participate, please complete the following questionnaire, which will include items on any past experiences you have had with energy auditing and assisting SMEs to implement energy conservation measures.

Participation in this study is completely voluntary and you can choose not to answer specific questions. We won't ask for any personal information or contact details and IP addresses will not be collected at any point so your answers will be anonymous and cannot be traced back to you. You have the right to withdraw from the study at any stage up to the point at which you click the submit button. At this point your data will be collated with that of other participants and can no longer be retracted. To withdraw, simply close this form.

The anonymous data will be stored on the IERCs Projects Drive on the servers of the Tyndall National Institute which is part of University College Cork, Ireland. The data will be stored for ten years. The information you provide may contribute to research reports, research publications and/or conference presentations delivered by the SPEEDIER project team.

This study has obtained ethical approval from the UCC Social Research Ethics Committee.
If you have any queries about this research, you can contact the SPEEDIER Project Coordinator at info@speedierproject.eu.

Section 2: Business Information

24. In which country are you located? (Multiple Choice)

- ☐ Austria
- ☐ Belgium
- ☐ Bulgaria
- ☐ Croatia
- ☐ Cyprus
- ☐ Czechia
- ☐ Denmark
- ☐ Estonia
- ☐ Finland
- ☐ France
- ☐ Germany
- ☐ Greece
- ☐ Hungary
- ☐ Ireland
- ☐ Italy
- ☐ Latvia
- ☐ Lithuania
- ☐ Luxembourg
- ☐ Malta
- ☐ Netherland
- ☐ Poland
- ☐ Portugal
- ☐ Romania
- ☐ Slovakia
- ☐ Slovenia
- ☐ Spain
- ☐ Sweden
- ☐ United Kingdom
- ☐ Others (Please Specify)

25. The main activity of my business is: (Multiple Choice)

- ☐ Energy management
- ☐ Energy consultancy
- ☐ Energy auditing
- ☐ Energy Services Company (ESCO)
- ☐ Finance provision
- ☐ Landlord
- ☐ Provision/installation of energy efficient technology
- ☐ Other (please specify)

Section 3: Questions for energy auditors, energy consultants, energy managers and ESCOs

1. How many years of experience do you have in the field of energy management and/or auditing? (Multiple Choice)

- ☐ 0-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ More than 15 years

2. What services does your business provide? (please select all that apply) (Check Box)

- ☐ Energy auditing
- ☐ Energy management
- ☐ Energy monitoring
- ☐ Implementation of standards (e.g. ISO 50001 or ISO 14001)
- ☐ Energy advice
- ☐ Training on energy efficiency or a related topic
- ☐ Specifying appropriate energy saving technologies
- ☐ Project managing the installation of energy saving technologies
- ☐ Other (please specify)

3. Do you use any software or tools to assist you in carrying out energy audits? (Check Box)

- ☐ Not applicable/I don't do energy audits
- ☐ I don't use any software
- ☐ Microsoft Excel
- ☐ eQuest
- ☐ EnergyPlus
- ☐ EMAT
- ☐ TREAT
- ☐ Other (please specify)

4. Thinking about energy auditing in particular, approximately what proportion of your turnover comes from energy auditing? (Multiple Choice)

- ☐ None 0%
- ☐ 1%-10%
- ☐ 10%-25%
- ☐ 25% - 50%
- ☐ More than 50%

5. Thinking about the number of sites that you audited in the last year, approximately what proportion of those sites belonged to small and medium sized enterprises (SMEs) i.e. a business with fewer than 250 employees and an annual turnover of less than €50M? (Multiple Choice)

- ☐ None 0%
- ☐ 1%-10%
- ☐ 10%-25%
- ☐ 25% - 50%
- ☐ More than 50%

6. Which of these energy conservation measures do you typically recommend to SMEs as a result of the energy audit? (Please select all that apply and specify any others that are not on the list) (Check Box)
   - ☐ Not applicable, I don't carry out audits for SMEs
   - ☐ Install LED lights
   - ☐ Upgraded lighting controls (e.g. install occupancy or daylight sensors)
   - ☐ Upgrade heating/cooling controls (e.g. install timers or thermostats)
   - ☐ Adjust heating/cooling controls (e.g. reduced heating set point temperature or changed timer settings to reduce system run hours)
   - ☐ Install variable speed drives (e.g. on pumps or fans)
   - ☐ Replace old heating/cooling equipment with a more efficient upgrade (e.g. install new boiler or heat pump technology)
   - ☐ Implement a staff energy awareness programme
   - ☐ Install solar PV
   - ☐ Install heat recovery
   - ☐ Upgrade building fabric (e.g. install insulation, replace windows and doors)
   - ☐ Draught proofing
   - ☐ Other (please specify)

7. What proportion of the SMEs that you successfully audited went on to implement the energy conservation measures that you recommended? (Multiple Choice)
   - ☐ I don't know
   - ☐ Less than 10%
   - ☐ 10% - 25%
   - ☐ 25% - 50%
   - ☐ More than 50%

8. What barriers typically prevent the SMEs you have worked with from implementing the Energy Conservation Measures that you recommended? (Please select all that apply) (Check Box)
   - ☐ Lack of finance
   - ☐ Uncertainty/lack of knowledge on what measures to implement
   - ☐ Uncertainty/lack of knowledge on how to procure energy conservation measures
   - ☐ Lack of time to implement
   - ☐ No control of building (landlord does not allow it)
   - ☐ Energy saving is not a priority for the business
   - ☐ Other (please specify)

9. Of the barriers you identified above, please select the ONE that you consider to be the MAIN barrier that prevents SMEs from implementing energy conservation measures? (Multiple Choice)

- ☐ Lack of finance
- ☐ Uncertainty/lack of knowledge on what measures to implement
- ☐ Uncertainty/lack of knowledge on how to procure energy conservation measures
- ☐ Lack of time to implement
- ☐ No control of building
- ☐ Energy saving is not a priority for my business
- ☐ Other (please specify)
- ☐ None, I have been able to implement all the measures I need

10. Do the SMEs you have worked with typically have dedicated funds to invest in Energy Efficiency improvements? (Check Box)
    - ☐ Yes – through their own funds
    - ☐ Yes – through a grant fund
    - ☐ Yes – through a bank loan
    - ☐ Yes – through another type of loan
    - ☐ Yes – Other (please specify)
    - ☐ No

11. Do you carry out any Measurement and Verification activities for SMEs after energy conservation measures have been implemented? (Multiple Choice)
    - ☐ Yes – only if the SME asks for it
    - ☐ Yes – as part of the one of the services we offer
    - ☐ No – SMEs don't ask us for this service
    - ☐ No – we don't have the skills in house to deliver this service
    - ☐ Other (please specify)

12. Do you receive any form of local or national government support to deliver energy auditing or other energy efficiency support services to SMEs? (Check Box)
    - ☐ Yes – we receive referrals from a local/national government scheme
    - ☐ Yes – we have a contract with local/national government to carry out free energy audits for SMEs
    - ☐ Yes – we have a contract with local/national government to deliver free training for SMEs on energy auditing/energy efficiency
    - ☐ Yes – we have received free training on energy auditing/energy efficiency
    - ☐ Yes – we attend free workshops, organised by local/national government, that allow us to network with SMEs and promote our services
    - ☐ No

13. Thinking about the SMEs that you audited in the last year, how did they contact you to request an energy audit? [please select all that apply] (Check Box)
- ☐ They contacted us directly and asked for an energy audit
- ☐ They contacted us directly about another service and we recommended an energy audit
- ☐ They were referred to us by one of our other clients
- ☐ They were referred to us via a local/national support scheme
- ☐ We contacted them to discuss what services we could provide
- ☐ Other (please specify)

14. Thinking about the SMEs that you audited in the last year, what was the MAIN method of contact to request an energy audit? (Multiple Choice)
- ☐ They contacted us directly and asked for an energy audit
- ☐ They contacted us directly about another service and we recommended an energy audit
- ☐ They were referred to us by one of our other clients
- ☐ They were referred to us via a local or national government support scheme
- ☐ We contacted them to discuss what services we could provide
- ☐ Other (please specify)

Section 4: Financier

1. How many years of experience do you have in the field of financing for energy efficiency? (Multiple Choice)

- ☐ 0-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ More than 15 years

2. What financial services does your business provide? (please select all that apply) (Check Box)
- ☐ Loans for energy efficiency
- ☐ Grants for energy efficiency
- ☐ Other

3. Thinking about the number of applications for energy efficiency finance that you received in the last year, approximately what proportion of those applications were from small and medium sized enterprises (SMEs) i.e. a business with fewer than 250 employees and an annual turnover of less than €50M? (Multiple Choice)
- ☐ None 0%
- ☐ 1%-10%
- ☐ 10%-25%
- ☐ 25% - 50%
- ☐ More than 50%

4. Thinking about the applications that you received for loans or grants from SMEs in the last year: For each of the values listed below, tell us what proportion of applications that you received fell into that range. (Multiple Choice Table)

	None 0%	1-10%	10-25%	25-50%	More than 50%
Less than €10k	☐	☐	☐	☐	☐
€10k – €50k	☐	☐	☐	☐	☐
€50k – €100k	☐	☐	☐	☐	☐
€100k – €250k	☐	☐	☐	☐	☐
More than €250k	☐	☐	☐	☐	☐

5. Thinking about loan or grant applications from SMEs for energy efficiency measures that have been rejected in the last year, what are the reasons for rejecting the application? (please select all that apply) (Check Box)

☐ The SME does not have a good credit rating
☐ Incomplete or incorrect completion of loan/grant paperwork
☐ Energy saving potential of the project is not clear
☐ Amount requested is too low
☐ Amount requested is too high
☐ Other (please specify)

7. What is the MAIN reason for rejecting a loan or grant application from SMEs for energy efficiency measures? (Multiple Choice)

☐ The SME does not have a good credit rating
☐ Incomplete or incorrect completion of loan/grant paperwork
☐ Energy saving potential of the project is not clear
☐ Amount requested is too low
☐ Amount requested is too high
☐ Other (please specify)

Section 5: Landlord

1. Which of these best describes the ownership of the buildings that you own and rent to tenants? (Check Box)

☐ I have rented an entire building to a single business tenant
☐ I have rented the building to multiple tenants for multiple business operating in same sector
☐ I have rented the building to multiple tenants for multiple business operating in different sectors
☐ Other (please specify)

2. In which sector does your tenant's business operate? (Check Box)

☐ Hospitality
☐ Education
☐ Manufacturing
☐ Commercial
☐ Retail
☐ Service

☐ Other (please specify

3. What proportion of your tenants are SMEs? (Multiple Choice)

☐ None 0%
☐ 1%-10%
☐ 10%-25%
☐ 25%-50%
☐ More than 50%

4. Who is responsible for paying the energy bills at the buildings that you rent to tenants? (Multiple Choice)

☐ We are (landlord) – the cost of energy is rolled up in the rental value
☐ We are (landlord) – the cost of energy is included in the monthly service charge
☐ We are (landlord) – but we sub-meter consumption of each tenant and recharge it to them monthly based on what they use
☐ Our tenants can choose their own supplier and are responsible for paying the bills themselves
☐ Don't know

5. Do you monitor energy consumption in the buildings that you rent to tenants? (Check Box)

☐ Yes – by examining energy bills
☐ Yes – by taking regular meter readings
☐ Yes – we use a third party to monitor our buildings and alert us if consumption is unusually high
☐ No
☐ Don't know

6. What are the main uses of energy in the buildings occupied by your tenants? (Check Box)

☐ Lighting
☐ Heating/Cooling/Ventilation
☐ Office Equipment
☐ Water Treatment
☐ Industrial Process
☐ Food preparation
☐ Other (please specify)

7. Who is responsible for maintaining building services (heating, cooling, ventilation, lighting equipment) in the buildings that you rent to tenants? (Multiple Choice)

☐ We are (landlord)
☐ Our tenants
☐ Don't know

8. Have any of your tenants ever requested that energy efficiency upgrades be installed in the buildings they rent from you? (e.g. lighting upgrades, better heating/cooling controls, installation of solar PV) (Multiple Choice)

- ☐ Yes
- ☐ No
- ☐ Don't know

9. If you answered yes to the previous question, did you install the energy efficiency upgrades that were requested? (Multiple Choice)

- ☐ Yes – all of them
- ☐ Yes – some of them
- ☐ No
- ☐ Not applicable

10. Do you think it is important to upgrade your building to minimise energy consumption? (please choose all that apply) (Check Box)

- ☐ Yes – energy efficient buildings have a higher rental value
- ☐ Yes – it's easier to find tenants for energy efficient buildings
- ☐ Yes – energy efficient buildings have a higher resale value
- ☐ Yes – we receive fewer complaints from tenants in energy efficient buildings
- ☐ Yes – it is good for our corporate image
- ☐ Yes – we see it as our corporate responsibility
- ☐ No

11. Which of these energy conservation measures have you already implemented in buildings that you rent to tenants? (Please select all that apply and specify any others that are not on the list) (Check Box)

- ☐ Installed LED lights
- ☐ Upgraded lighting controls (e.g. install occupancy or daylight sensors)
- ☐ Upgraded heating/cooling controls (e.g. install timers or thermostats)
- ☐ Adjusted heating/cooling controls (e.g. reduced heating set point temperature or changed timer settings to reduce system run hours)
- ☐ Install variable speed drives (e.g. on pumps or fans)
- ☐ Replace old heating/cooling equipment with a more efficient upgrade (e.g. install new boiler or heat pump technology)
- ☐ Implemented a staff energy awareness programme
- ☐ Install solar PV
- ☐ Install heat recovery
- ☐ Upgrade building fabric (e.g. install insulation, replace windows and doors)
- ☐ Draught proofing
- ☐ Other (please specify)
- ☐ We have not implemented any energy conservation measures

12. What barriers prevent you from implementing Energy Conservation Measures in the buildings that you rent to tenants? (Please select all that apply) (Check Box)

- ☐ No incentive to make an investment – tenants would receive all the financial benefits because they are responsible for paying their own energy bills

- ☐ Lack of finance
- ☐ Uncertainty/lack of knowledge on what measures to implement
- ☐ Uncertainty/lack of knowledge on how to procure energy conservation measures
- Lack of time to implement
- ☐ Cannot carry out installations whilst the building is occupied
- ☐ Energy saving is not a priority for my business
- ☐ Other (please specify)
- ☐ None, I have been able to implement all the measures I need

13. Have you ever received any support from local or national government schemes for implementing energy efficiency measures in your buildings? (Check Box)

- ☐ Yes – Free energy audit
- ☐ Yes – Grant to install energy efficient equipment
- Yes – Interest free or low interest loan for equipment
- ☐ Yes – Free training on energy auditing
- ☐ Yes – Free training on energy efficiency
- Yes – Information on how to implement energy conservation measures
- ☐ Yes – Free consultancy support or advice
- ☐ Yes – tax incentive for installing energy efficient equipment
- ☐ I don't know
- ☐ No

14. If you undertake energy efficiency upgrades who usually pays for these upgrades? (Multiple Choice)

- ☐ We pay (landlord)
- ☐ Our tenants pay
- ☐ The cost will be split between ourselves and our tenants
- ☐ Don't know

15. If you (landlord) pay for the energy efficiency upgrades, what is the main source of funding? (Multiple Choice)

- ☐ Our own funds
- ☐ A grant for energy efficiency
- ☐ A bank loan
- ☐ Another type of loan
- ☐ Other (please specify)

Section 6: Technology Vendor and Installer

1. How many years of experience do you have as a vendor and/or installer of energy efficiency technologies? (Multiple Choice)

☐ 0-5 years
☐ 6-10 years
☐ 11-15 years
☐ More than 15 years

2. What products and/or services does your business provide? (please select all that apply) (Check Box)

☐ Energy efficient lighting
☐ Lighting controls
☐ HVAC equipment
☐ HVAC controls
☐ Building Management Systems
☐ Insulation
☐ Energy efficient windows and doors
☐ Efficient appliances
☐ Energy monitoring software or equipment
☐ Renewable energy technologies
☐ Other (please specify

3. Thinking about the number of clients that you worked for in the last year, approximately what proportion of those clients are small and medium sized enterprises (SMEs) i.e. a business with fewer than 250 employees and an annual turnover of less than €50M? (Multiple Choice)

☐ None 0%
☐ 1%-10%
☐ 10%-25%
☐ 25% - 50%
☐ More than 50%

4. Thinking about the SMEs that you worked with in the last year, what were the barriers that prevented those SMEs from purchasing the energy efficient products or services that you offered? (Check Box)

☐ Lack of finance
☐ Uncertainty/lack of knowledge on what measures to implement
☐ Uncertainty/lack of knowledge on how to procure energy conservation measures
☐ Lack of time to implement
☐ No control of building
☐ Energy saving is not a priority for their business
☐ Other (please specify)
☐ None - we haven't had any problems selling our products and/or service to SMEs

5. Of the barriers you identified above, please select the ONE that you consider to be the MAIN barrier that prevents SMEs from implementing energy conservation measures? (Multiple Choice)

- ☐ Lack of finance
- ☐ Uncertainty/lack of knowledge on what measures to implement
- ☐ Uncertainty/lack of knowledge on how to procure energy conservation measures
- Lack of time to implement
- ☐ No control of building
- ☐ Energy saving is not a priority for their business
- ☐ Other (please specify)
- ☐ None - we haven't had any problems selling our products and/or service to SMEs

6. Do you receive any form of local or national government support to deliver energy efficient products and/or services to SMEs? (Check Box)

- ☐ Yes – we receive referrals from a local/national government scheme
- ☐ Yes – we have a contract with local/national government to carry out free installations/provide free services for SMEs
- ☐ Yes – we have a contract with local/national government to deliver free training for SMEs on energy efficiency
- ☐ Yes – we have received free training on energy auditing/energy efficiency
- ☐ Yes – we attend free workshops, organised by local/national government, that allow us to network with SMEs and promote our services
- ☐ No

7. Thinking about the SMEs that you audited in the last year, how did they contact you to request an energy efficient product or service? (Please select all that apply) (Check Box)

- ☐ They contacted us directly and asked for the product or service
- ☐ They contacted us directly about another product or service and we recommended a more appropriate one
- ☐ They were referred to us by one of our other clients
- ☐ They were referred to us via a local/national support scheme
- ☐ We contacted them to discuss what services we could provide
- ☐ Other (please specify)

8. Thinking about the SMEs that you audited in the last year, what was the MAIN method of contact to request an energy efficient product or service? (Multiple Choice)

- ☐ They contacted us directly and asked for an energy audit
- ☐ They contacted us directly about another service and we recommended an energy audit
- ☐ They were referred to us by one of our other clients
- ☐ They were referred to us via a local or national government support scheme

☐ We contacted them to discuss what services we could provide
☐ Other (please specify)

Annex 3 - Survey Results Tables

Table 4: In which sector is the SME operating

SME Business Sector								
Sector Name	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Manufacturing	11	55	6	30	0	0	1	4
Services	4	20	5	25	7	33	3	13
Energy	1	5	0	0	2	10	1	4
Education	1	5	0	0	0	0	1	4
Commercial	1	5	3	15	0	0	2	9
Hospitality	0	0	2	10	0	0	14	61
Others	2	10	4	20	11	57	1	4
Total	20	100	20	100	21	100	23	100

Table 5: No. of employees within SMEs

Number of Employees								
Number of employees	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
0-25	9	45	5	25	15	71	10	43
26-50	5	25	2	10	2	10	10	43
51-100	0	0	5	25	2	10	2	9
101-250	5	25	3	15	1	5	1	4
More than 250	1	5	5	25	1	5	0	0
Total	20	100	20	100	21	100	23	100

Table 6: Previous Year turnover of SMEs

Previous Year Turnover								
Number of employees	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
€0-€1million	6	30	4	20	11	52	5	22
€1million -€10million	7	35	3	15	8	38	15	65
€10million-€25million	5	25	4	20	0	0	3	13
€25million-€50million	2	10	2	10	1	5	0	0
More than €50million	0	0	7	35	1	5	0	0
Total	20	100	20	100	21	100	23	100

Table 7: Type of Building Occupancy of SMEs

Type of Building Occupancy								
Occupancy Type	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Owner Occupied	10	50	12	60	4	19	13	57
Complete Building Rented	4	20	4	20	1	5	6	26
Part of the Building Rented	6	30	4	20	16	76	4	17
Total	20	100	20	100	21	100	23	100

Table 8: Unit Electricity Rate for SMEs

Unit Electricity Price								
Unit Rate	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
5-10 Cents/kWh	2	10	2	10	7	33	0	0
10-15 Cents/kWh	5	25	6	30	1	5	1	4
15-20 Cents/kWh	3	15	2	10	1	5	1	4
20-25 Cents/kWh	3	15	5	25	0	0	0	0
No answer	7	35	5	25	12	57	21	91
Total	20	100	20	100	21	100	23	100

Table 9: Annual Electricity Cost

Annual Electricity Cost								
Unit Rate	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
€0-€1000	2	10	0	0	2	10	2	9
€1001-€5000	2	10	3	15	0	0	9	39
€5001-€10000	5	25	3	15	0	0	10	43
More than €10000	4	20	11	55	7	33	1	4
Don't Know	4	20	0	0	9	43	1	4
No answer	3	15	3	15	3	14	0	0
Total	20	100	20	100	21	100	23	100

Table 10: Annual Natural Gas Cost

Annual Natural Gas Cost								
Unit Rate	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
€0-€1000	1	5	0	0	1	5	0	0
€1001-€5000	2	10	1	5	0	0	4	17
€5001-€10000	0	0	0	0	0	0	8	35
More than €10000	1	5	5	25	1	5	8	35
Don't Know	5	25	0	0	4	19	2	9
Don't Use	2	10	2	10	7	33	0	0
No answer	9	45	12	60	8	38	1	4
Total	20	100	20	100	21	100	23	100

Table 11: Energy Manager in organisations

Energy Manager within Organisation								
Energy Manager	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Yes-Dedicated	0	0	2	10	0	0	2	9
Yes-Combined	6	30	3	15	2	10	0	0
No	13	65	14	70	15	71	21	91
Don't Know	0	0	1	5	4	19	0	0
No Answer	1	5	0	0	0	0	0	0
Total	20	100	20	100	21	100	23	100

Table 12: Energy Policy within SMEs

Energy Policy within Organisation								
Energy Policy	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Yes	6	30	7	35	4	19	2	9
No	13	65	12	60	14	67	14	61
Don't Know	0	0	0	0	3	14	7	30
No Answer	1	5	1	5	0	0	0	0
Total	20	100	20	100	21	100	23	100

Table 13: Energy Target within SMEs

Energy Target within Organisation								
Energy Target	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Yes	6	30	6	30	7	33	2	9
No	13	65	12	60	11	52	8	35
Don't Know	0	0	2	10	2	10	13	57
No Answer	1	5	0	0	1	5	0	0
Total	20	100	20	100	21	100	23	100

Table 14: Energy Audit in past 5 Years

Energy Audit in past 5 Years								
Energy Audit	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Yes- Internal	1	5	1	5	0	0	0	0
Yes- External (Free)	1	5	1	5	0	0	0	0
Yes- External (Paid)	1	5	2	10	2	10	0	0
No	15	75	11	55	13	62	15	65
Don't Know	2	10	5	25	5	24	8	35
No Answer	0	0	0	0	1	5	0	0
Total	20	100	20	100	21	100	23	100

Table 15: ECM implementation

ECM Implementation								
ECM Implementation	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Yes	2	67	4	100	2	100	0	0
No	0	0	0	0	0	0	0	0
Don't Know	1	33	0	0	0	0	0	0
Total	3	100	4	100	2	100	0	0

Table 16: Main Challenge for SMEs

Main Challenge for SMEs								
Challenges	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Lack of Finance	1	5	7	35	6	29	13	57
Lack of Time	2	10	2	10	1	5	0	0
Lack of Knowledge	7	35	2	10	1	5	1	4
Low Priority	2	10	2	10	3	14	0	0
No Control on Building	3	15	2	10	4	19	7	30
None	2	10	0	0	0	0	0	0
Don't Know	3	15	3	15	1	5	2	9
No Answer	0	0	2	10	5	24	0	0
Total	20	100	20	100	21	100	23	100

Table 17: Fund Availability for SMEs

Funds Availability for SMEs								
Funds	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Own Fund	4	20	7	35	5	24	1	4
Grant Fund	1	5	0	0	0	0	0	0
No	11	55	11	55	15	71	12	52
Don't know	3	15	2	10	0	0	10	43
No Answer	1	5	0	0	1	5	0	0
Total	20	100	20	100	21	100	23	100

Table 18: Government Support for SMEs

Government Support								
Government Support	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Free Energy Audit	2	10	0	0	0	0	0	0
Tax Incentive	0	0	1	5	0	0	0	0
Grant for Installation	2	10	0	0	1	5	0	0
No	11	55	10	50	15	71	0	0
Don't Know	4	20	9	45	4	19	22	96
No Answer	1	5	0	0	1	5	1	4
Total	20	100	20	100	21	100	23	100

Table 19: Energy Management Outsourcing

Energy Management Outsourcing								
Energy Management	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Yes- Free	7	35	10	50	4	19	5	22
Yes - Paid	5	25	4	20	4	19	17	74
No	7	35	4	20	9	43	1	4
No Answer	1	5	2	10	4	19	0	0
Total	20	100	20	100	21	100	23	100

Table 20: Stakeholder main business activity

Stakeholder's Main Business Activity								
Main Business Activity	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Energy Experts	22	81	10	50	15	63	11	55
ESCO	0	0	6	30	1	4	2	10
Landlord	0	0	2	10	0	0	3	15
Provision/installation of energy efficient technology	3	11	1	5	1	4	2	10
Financial Services	0	0	0	0	1	4	0	0
Others	2	7	1	5	6	25	2	10
Total	27	100	20	100	24	100	20	100

In above table Energy Experts business activity include, Energy Auditing, Energy management and Energy Consultancy and Others business activities include Environmental Certification, Academic, R&D, Facility Engineering, and Hotel Management.

Table 21: Stakeholder's Business Experience

Stakeholder's Business Experience								
Experience	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
0-5 Years	7	26	8	40	2	8	3	15
6-10 Year	8	30	4	20	2	8	8	40
11-15 Years	8	30	3	15	6	25	5	25
More than 15 Years	4	15	3	15	14	58	1	5
No Answer	0	0	2	10	0	0	3	15
Total	27	100	20	100	24	100	20	100

Table 22: Percentage Turnover from Energy Auditing

Percentage Turnover from Energy Auditing								
Percentage	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
None 0%	3	11	4	20	2	8	4	20
1-10%	6	22	1	5	11	46	6	30
10-25%	7	26	4	20	3	13	2	10
25-50%	4	15	3	15	5	21	3	15
More than 50%	4	15	4	20	1	4	0	0
No Answer	3	11	4	20	2	8	5	25
Total	27	100	20	100	24	100	20	100

Table 23: Percentage involvement with SMEs

Percentage involvement with SMEs								
Percentage	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
None 0%	6	22	4	20	4	17	4	20
1-10%	5	19	1	5	7	29	8	40
10-25%	5	19	1	5	2	8	2	10
25-50%	4	15	2	10	5	21	2	10
More than 50%	7	26	12	60	6	25	4	20
Total	27	100	20	100	24	100	20	100

Table 24:% SMEs who implement recommended ECMs

% SMEs who implement recommended ECMs								
Percentage	Ireland		Italy		Spain		Romania	
	Number	%	Number	%	Number	%	Number	%
Less than 10%	1	4	2	10	4	17	8	40
10-25%	3	11	8	40	6	25	2	10
25-50%	8	30	0	0	4	17	1	5
More than 50%	6	22	3	15	2	8	0	0
I don't know	6	22	4	20	6	25	4	20
No Answer	3	11	3	15	2	8	5	25
Total	27	100	20	100	24	100	20	100

Table 25: Main Challenges to implement ECMs for SMEs

Main Challenge for SMEs to implement ECMs								
Challenges	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Lack of Finance	14	52	11	55	9	38	8	40
Lack of Time	4	15	1	5	1	4	1	5
Lack of Knowledge	2	7	3	15	1	4	2	10
Low Priority	7	26	1	5	10	42	5	25
No Control on Building	0	0	0	0	0	0	1	5
No Answer	0	0	4	20	3	13	3	15
Total	27	100	20	100	24	100	20	100

Table 26: SME's contact method

SME's contact method								
Contact Method	**Ireland**		**Italy**		**Spain**		**Romania**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Direct contact for energy audit	16	59	2	10	5	21	1	5
Direct contact for other services	3	11	0	0	3	13	2	10
Client Referral	1	4	0	0	6	25	12	60
Govt. Referral	4	15	2	10	3	13	0	0
We contacted them	1	4	11	55	5	21	0	0
No Answer	2	7	5	25	2	8	5	25
Total	27	100	20	100	24	100	20	100