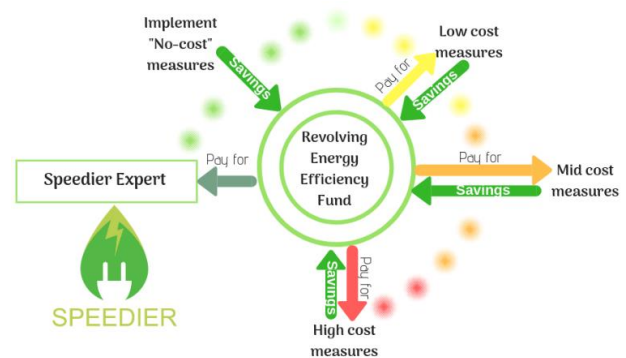


Barriers to Energy Efficiency in SMEs: A survey of opinions on energy auditing in SMEs

1. Introduction

Small and Medium-sized Enterprises (SMEs) represent more than 99% of all business in the EU1 and are an important driver of economies around the world. Individually, SMEs use modest amounts of energy but collectively, their energy demand is significant, accounting for more than 13% of total energy demand globally according to a recent report by IEA². However, SMEs show poor performance in terms of increasing and maintaining their energy efficiency due to a range of barriers. Article 8 of the Energy Efficiency Directive (EED) requires Member States to set up national incentives to assist SMEs to undertake energy audits. In order to implement Article 8 of the EED and to achieve the energy efficiency target specified in EED, it is essential to provide support to SMEs to improve their energy efficiency.

SPEEDIER is a Horizon 2020 funded project, developing one-stop-shop solution for SMEs, providing outsourced energy management and capacity building activities. SPEEDIER will offer the SPEEDIER Service which will help SMEs by removing the hassle of energy management by offering a self-financing outsourced energy management service via SPEEDIER Experts, who takes the role of outsourced energy manager and guides SMEs through the energy audit and subsequent implementation of Energy Conservation Measures (ECMs).



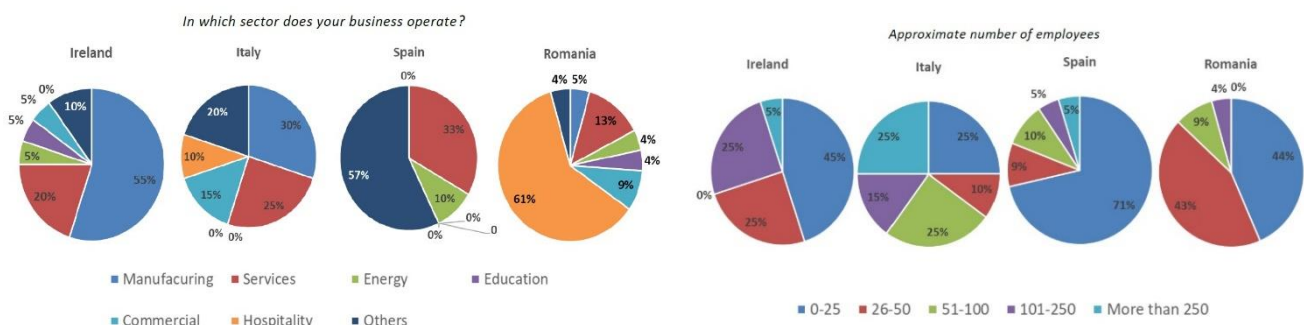
2. The online survey

In order to understand the market for energy audits in SMEs, including the drivers and barriers that influence the level of uptake of energy audits and implementation of recommended ECMs, an online survey was conducted by SPEEDIER, a Horizon 2020 project. The results of the survey facilitated the validation of the design concept behind SPEEDIER and provided insights on improvements to the project that would maximize the chances of successful project implementation in the chosen pilot countries (Ireland, Italy, Spain, Romania). The survey was conducted using the online platform 'Google Forms' and 84 SMEs (20, 20, 21 and 23 from Ireland, Italy, Spain and Romania respectively) participated in the survey.

3. Survey Questions and Results

Based on nature of questions sub categories of the survey questions were created.

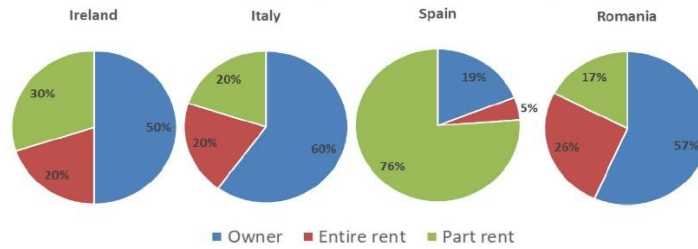
3.1 Business sector, Size, and building



¹ https://ec.europa.eu/growth/smes_en

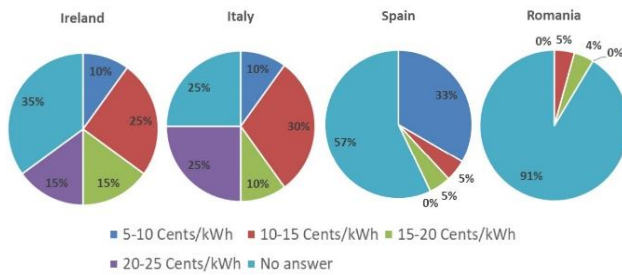
² As per IEA report published in 2015 "Accelerating Energy Efficiency in Small and Medium-sized Enterprises".

Which of these best describes the ownership of your business premises?

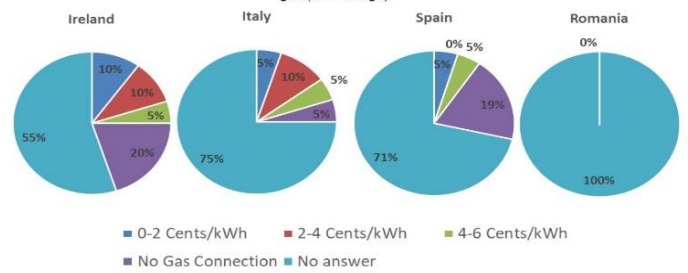


3.2 Energy Awareness

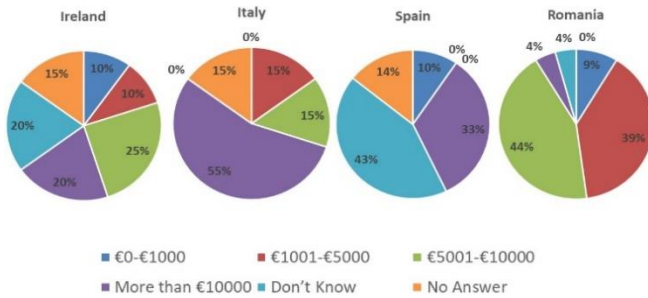
If you know it, please tell us how much your business pays per kWh of energy consumed for electricity (on average)



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



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

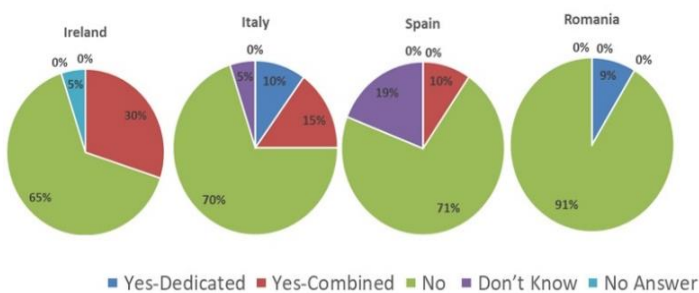


If you know it, please tell us the approximate amount that your business spends annually on natural gas

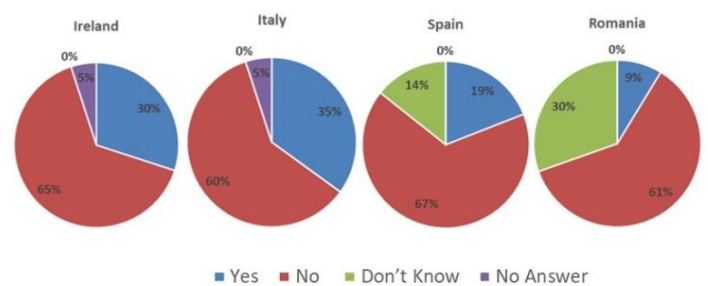


3.3 Energy management

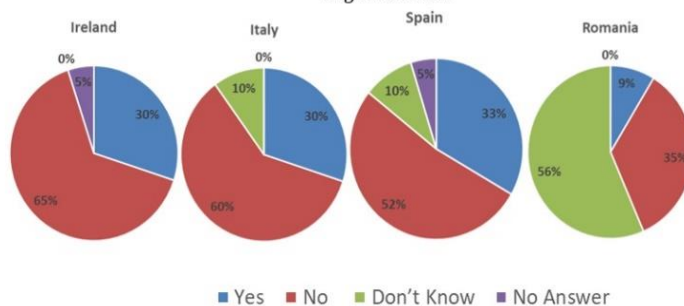
Does your organisation have an Energy Manager?



Does your organisation have an energy policy?

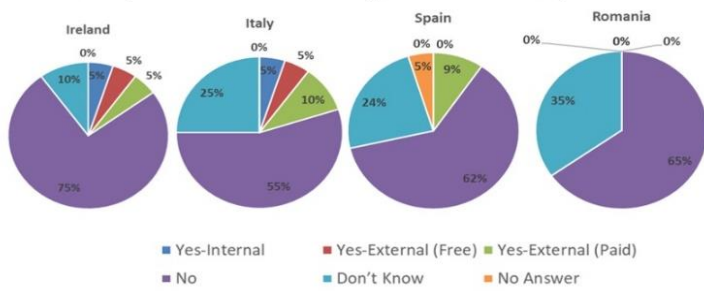


Have you set any targets for reducing energy consumption in your organisation?

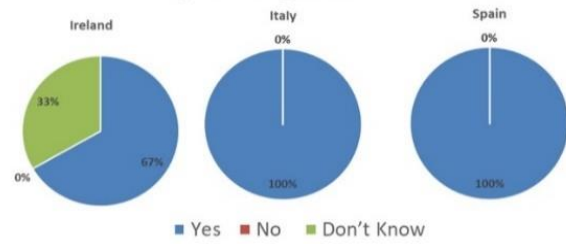


3.4 Energy Audit³

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



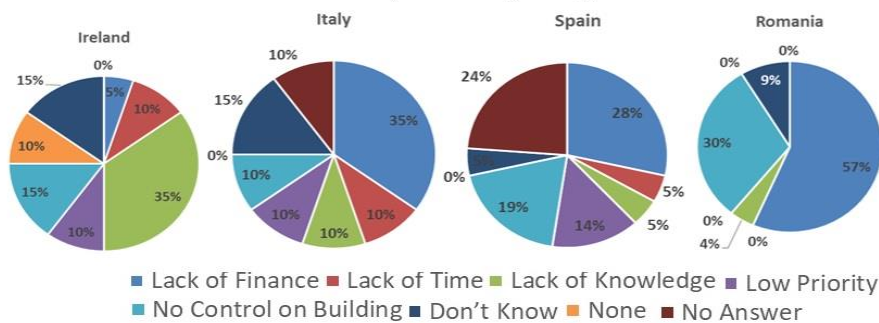
Did you implement any of the energy conservation measures recommended by the energy audit?



ECMs implemented	Ireland	Italy	Spain	Romania
Installed LED lights	8	15	9	3
Upgraded lighting controls	6	10	2	0
Upgraded heating/cooling controls	6	7	5	0
Adjusted heating/cooling controls	6	5	2	0
Install variable speed drives	1	5	1	0
Replace old heating/cooling equipment	5	3	1	0
Implemented a staff energy awareness program	3	4	1	0
Install solar PV	1	5	1	0
Install heat recovery	0	3	3	0
Upgrade building fabric	2	1	1	0
Draught proofing	2	1	1	0
None	5	1	0	13
I don't know	4	1	4	7

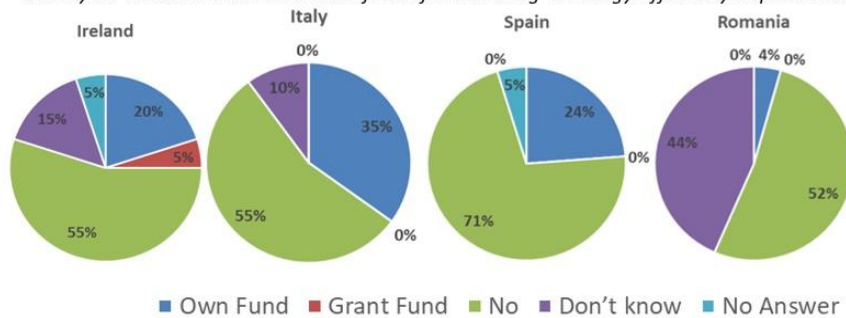
3.5 Challenges and Barriers

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



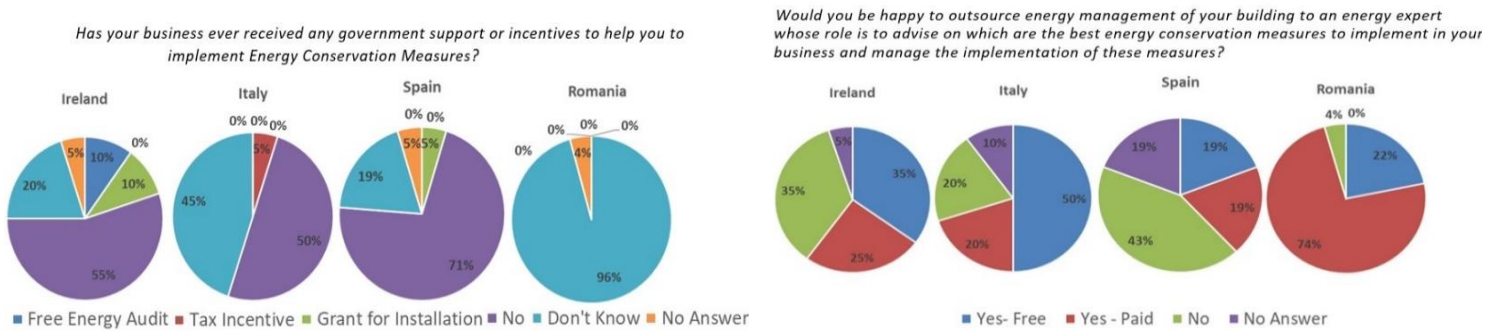
3.6 Funds Availability

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



³ No Answer received from Romania on 2nd question of Energy Audit sub category

3.7 Government Support and Energy Management Outsourcing



4. Response Analysis

The analysis above gave insights into the level of energy awareness and energy management activities in SMEs in 4 countries in Europe. Some similarities and differences regarding energy management practices were found between countries.

4.1 Similarities

- Majority of the participant organisations don't have an energy manager, energy policy, or energy reduction target and they have not undertaken an energy audit in the last five years.
- Most of the participant organisations don't have dedicated funds to invest in the implementation of ECMs within their organisation.
- Many survey respondents are unaware of available financial governmental support for which they may be eligible.
- Businesses have taken up only those ECMs that are easy to implement and do not require complex technical expertise.

4.2 Differences

- The important difference between the pilot countries is the main barriers that they identify as preventing their organisation from implementing the recommended ECMs.
- The attitude of SMEs in different countries towards outsourcing the management of energy to an external energy expert. A considerable number of participating organisation from Spain would prefer to keep the energy management in-house compared to Romania, where most participating organisations would be willing to pay to outsource energy management.

5. Conclusion

- These results validate the design concept behind SPEEDIER and confirm the perceived barriers to energy efficiency experienced by SMEs.
- These results serve as evidence of the need for a customized SPEEDIER Service in each of the pilot countries tailored to the needs of SMEs which differ depending on their location.
- These results also show that Member States need to establish more support programmes and incentives for SMEs to undertake energy audits and implement ECMs in order to achieve the EED target of a 32.5% improvement in energy efficiency by 2030.
- The SPEEDIER Service could be used by Member States as a way of delivering their obligations under Article 8 of the EED which requires Member States to set up national incentives to encourage SMEs to undertake energy audits and implement recommended ECMs.