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# D5.6 Quantifying the increase in energy awareness of students living in private accommodation in academic year #2

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# Contents

# Executive Summary

The Student Switch Off+ (SSO+) campaign aims to raise awareness amongst students living in private accommodation, in particular focusing on those that rent accommodation, helping them reduce their energy costs. It focuses on making students aware of energy performance certificates (EPC), smart meters and energy efficiency, thus helping reduce their exposure to fuel poverty.

The SSO+ campaign runs in (59) universities in seven European countries - Bulgaria, Cyprus, Greece, Ireland, Lithuania, Romania and the United Kingdom. This academic year, 2018-19, is the first academic year that SSO+ has been rolled out in Bulgaria, Ireland and Romania. In Cyprus, Greece, Lithuania and the UK the SSO+ campaign was first rolled out in the 2017-18 academic year. Activities undertaken as part of the Student Switch Off+ campaign involve in-depth information on saving energy at home, Energy Performance Certificates, energy efficiency and smart energy meters. Activities undertaken as part of the Student Switch Off+, are summarised in the country specific reports found on the SAVES 2 webpage (www.saves-project.eu).

The aim of this research is to assess the impact of the Student Switch Off+ (SSO+) information campaign on students living in private accommodation. The impact of the SSO+ campaign is evaluated through the level of increased awareness on the two following areas:

a) Use of smart meters
b) Housing choices that can minimize exposure to fuel poverty

Changes in the awareness levels of students were evaluated through pre- and post-intervention questionnaire surveys. Students were encouraged to complete a baseline survey (pre-intervention) at the beginning of the academic year (October 2018) in order for existing information and awareness levels to be recorded, and a follow-up survey (post-intervention) at the end of the academic year (May 2019). The questionnaires were distributed either through university mailing lists and students' social media pages or as hardcopies through face to face communications. At the end of the academic year the pre- and post-intervention surveys were analyzed to identify changes that could be attributable to the project.

Out of the 7,558 that opened the survey, 5,975 were considered for the analysis. These students lived in private accommodation and answered at least one SSO+ specific question. Two thousand eight hundred and sixty five (2,865) students participated in the baseline survey and three thousand one hundred and ten (3,110) students participated in the follow-up survey.

Evidence of the research presented in this report suggests that a good proportion of students retained MANY of the messages of the campaign. In summary, the main findings of this report are presented below.

**Familiarization with the SSO+ campaign**
At the end of the academic year a statistically significant higher share of respondents (+6%) had heard about the SSO+ campaign compared to the beginning of the academic year. The share of respondents that had heard of the SSO+ survey was 41% in the follow-up survey and 36% in the baseline. At the end of the academic year, statistically significant increased proportions of students from Cyprus (+21%) , Greece (+10%), Ireland (+7%) and Lithuania (+6%) had heard of the SSO+ campaign compared to the beginning of the academic year.

**Sources of information about the SSO+ campaign**
At the end of the academic year the most popular sources of information about the SSO+ campaign were emails (58%), posters (39%) and social media (39%). On the contrary only 10% of those surveyed reported they had heard about the SSO+ campaign from a friend, 7% from a classmate and 4% from seminars. The sources of information with the most important positive difference over the academic year were emails (+8%) and social media (+6%).

**Influence of SSO+ campaign**
Overall, 68% of the follow-up respondents were influenced by SSO+ in a positive way. The SSO+ campaign helped most of the respondents in both the baseline (41%) and the follow-up survey (35%) to reduce their energy costs. In addition, in the follow-up survey a slightly higher proportion of respondents (+1%) was aware of the Energy Performance Certificates and of smart meters as a result of the SSO+ campaign. The share of respondents who stated that the SSO+ campaign helped them to select energy-efficient house appliances stayed the same through the academic year (8%).

**Perceived level of information**
Overall, respondents of both surveys felt rather neutrally informed about the energy they personally consume at their home, about the impact their energy saving measures have on their energy bill and about the impact of cold homes on their health and wellbeing. Respondents' perceived level of information about the impact that energy saving solutions can have to help reduce global warming and about what they can do to personally save energy in their accommodation was rather positive while improvements could be made to the level of information about their tariff choices and rights for choosing and changing their energy provider.

**Habits and practices**
The frequency that any energy habit or action was taken did not change drastically over the academic year. The actions taken more frequently at the end of the academic year were: "Switched off lights and appliances when not in use", "Only wash clothes when you have a full load" and "Allow food to cool down before putting it to fridge". Actions taken less frequently were: "Leave the heating on when you go out for a few hours", "Defrost the fridge frequently" and "Leave your PC or TV on standby for long periods of time at home".

In addition, the findings of the follow-up survey revealed some practices that respondents from different countries have in common. According to the follow-up survey, the most frequent action respondents from Bulgaria, Greece, Ireland and the UK undertake, is to wash their clothes only when they have a full load whereas in Cyprus and Lithuania is to switch off lights and appliances when not in use. On the other hand, respondents from Cyprus, Greece, Ireland and Lithuania, rarely leave the heating on when they go out for a few hours.

**Actions taken to reduce energy costs**
The most popular responses with regard to actions taken by the respondents to reduce their energy costs in both surveys (~50% of respondents) are "Took actions to reduce my energy usage" and "Worn outdoor wear (e.g. hat/scarf/coat/gloves) or more clothes to keep the heating down in your home". A small increase (+1%) is observed in the proportion of respondents taking action to reduce their energy usage at the end of the academic year compared to the beginning. A slightly bigger increase is noted for those wearing outdoor wear or more layers to keep the heating down (+2.5%).

The biggest share of follow-up respondents in Bulgaria (80%) Cyprus (45%) Lithuania (31%) and Romania (36%) reduced their energy costs by reducing their energy usage. In Greece (44%), Ireland (54%), and the UK (69%) the most popular action in the follow-up survey was wearing outdoor wear or more clothes to keep warm in their home. These actions were also the most frequently occurring response at the beginning of the academic year as well.

**Feelings about saving energy**
In both surveys, the highest share of respondents felt optimistic about energy saving; this share (32%) remained unchanged in the two surveys. The second most popular feeling in both surveys was the feeling of contentment (baseline 23%; follow-up: 20%) suggesting that overall students have positive feelings towards saving energy.

By the end of the academic year, a statistically significant increase of +4% was observed in the share of respondents who felt guilty about saving energy. In addition, a statistically significant decrease of-3% was observed in the share of respondents who felt content about saving energy. Both of these feelings could be a result of students being more aware of the environmental impacts of energy use and of ways to save energy thus expecting more from themselves.

**Behavioral antecedents**
Respondents in both surveys agreed that: a) energy conservation contributes to a reduction of climate change impacts, b) everyone including their self is responsible for climate change, and c) they feel morally obliged to save energy, regardless of what others do. Furthermore, in all countries respondents disagreed more rather than agreed that "saving energy is too much of a hassle".

In Bulgaria, Ireland, Romania and the UK, respondents agreed the most on that "everyone including myself is responsible for climate change". In Greece and Cyprus, respondents agreed the most that "energy conservation

contributes to a reduction of climate change impacts". In Lithuania respondents agreed the most with the statement "I feel jointly responsible for the exhaustion of energy sources".

**Important criteria when choosing appliances**
The top three criteria for choosing appliances were the same in both the baseline and the follow-up survey. Those were: 1st "Cost of appliance", 2nd "Functionality of the appliance" and 3rd "Energy efficiency and /or energy certification score of the appliance". The proportion of respondents that would choose an appliance based on its "Energy efficiency and /or energy certification score" was slightly increased by +1% at the end of the academic year.

**Smart meters**
At the beginning of the academic year, less than half of the respondents (42% of the total sample) had heard of smart meters before. At the end of the academic year this share was +7% higher which is statistically significant. A very encouraging finding is that the follow-up shares of those aware of smart meters are higher than in baseline in all countries. The highest share of follow-up respondents who had heard of smart meters before was recorded in the UK (84%). This share is increased by +4% compared to the baseline survey.

In the follow-up survey the share of those surveyed that had a smart meter in their accommodation (23%) is very similar to that of the baseline survey (24%) but a higher share of respondents (+3%) would like to have one. Eventually, the share of those who didn't know if they have a smart meter in their current accommodation reduced by 4% in what was a statistically significant difference.

Overall, respondents in both the baseline and in the follow-up survey had positive opinions about smart meters. These opinions remained unchanged over the academic year. In fact in all countries, respondents in both surveys agreed with the four positive statements:

- Smart meters are an efficient way of monitoring the energy consumption of my house in real time
- Smart meters can help me to save money on my energy bills
- Smart meters make my energy easy to understand and control
- Smart meters make life easier by taking away the hassle of meter reads and estimated bills

and disagreed with the one negative statement:

- Smart meters are an invasion of privacy.

**Energy Performance Certificate**
In the baseline survey, less than half of the respondents (46% of baseline respondents) had heard of an EPC before. At the end of the academic year this share was +5% higher (51% of follow-up respondents). This increase was statistically significant. The increase was statistically significant in Greece, Romania and the UK.

In the follow-up survey the share of those surveyed that saw the EPC of their current accommodation before moving in was 29%. This share was increased by +3% compared to the baseline survey and the increase was statistically significant. Fifty-one percent of the participants in the follow-up survey, had not seen the EPC of their current property (same as in baseline) whereas 20% stated (-3% less than the baseline) could not remember if they had seen the EPC of their property or not.

Finally, in most countries, the percentage of respondents who will consider the EPC when selecting their next accommodation is encouraging. More than 70% of the respondents in each country except in the UK, who had heard of the EPC before, stated that they will take the EPC into account when selecting their next accommodation. In Bulgaria, Greece, Ireland, Lithuania and Romania a higher share of follow-up respondents would take the EPC score into account when selecting their next accommodation while in the UK and Cyprus this share is decreased by 8% and 5% respectively compared to the baseline survey might be a result of the increased demand on the one hand and the limited supply of private student accommodation on the other that makes students less selective towards energy efficiency. In this case, the SSO+ campaign can have a positive impact by providing more targeted information on the benefits of EPCs to students.

**Year #2 compared to Year #1**
The approach followed in Year #1 in quantifying the increase in energy awareness of students living in private accommodation is different from the approach followed in Year #2. Instead of a matched baseline and follow-up sample (Year #1), independent samples were used instead (Year #2). Although the results are not strictly comparable an indicative comparison is performed nonetheless.

In Year #2, the share of respondents having positive feelings about saving energy (content, proud, optimistic) has increased, while the share of those having negative feelings (anxious and frustrated) had decreased.

Moreover, the level of information respondents felt they had about their energy consumption is higher the second academic year. The increase is statistically significant in the following items:

- The energy respondents personally consume in their accommodation (+8%)
- What they can personally do to save energy in their accommodation (+9%)
- The impact their energy saving measures have on their energy bill (+9%)
- The rights they have in choosing and changing their energy provider (+12%)

On the other hand, statistically significant differences for three listed items of behavioral antecedents are observed. Those are:

- I feel morally obliged to save energy regardless of what others do (-5% in Year #2 mean value)
- Saving energy means I have to live less comfortably (-9% in Year #2 mean value)
- I feel jointly responsible for the exhaustion of energy sources (-12% in Year #2 mean value)

With regard to importance of criteria when choosing electrical appliances, a 17% reduction in the share of respondents in Year #2 choosing cost of appliance as their top criterion for selecting appliances is observed. Regardless of the large reduction, the cost of the appliance remains the primary criterion for selection appliances in both Year #1 and Year #2.

When it comes to smart meters, in Year #2 the share of respondents that had heard of smart meters before is 11.5% lower than those that had heard of them in Year #1. This difference is also statistically significant. Out of those that had heard of smart meters before a smaller proportion of respondents (17% less) had a smart meter in Year #2 compared to Year #1. However, in Year #2, 4% more respondents (38% in Year #2) would like to have a smart meter.

Only small differences were observed in respondents' opinions about smart meters over the two years and they remain very positive in both. Decreases are observed in the level of agreement with "Smart meters make my energy easy to understand and control" (-1% in mean value in Year #2) and "Smart meters make life easier by taking away the hassle of meter reads and estimated bills" (-5% in mean value in Year #2) while an increase is observed in the level of agreement with "Smart meters can help me to save money on my energy bills" (+1% in mean value in Year #2). None of the differences was statistically significant.

Finally, with regard to Energy Performance Certificates (EPCs), the difference in the proportion of respondents that have heard of EPCs in Year #1 and Year #2 is large (29% less respondents heard about EPCs in Year #2) and statistically significant. However, this high difference is mainly attributed to the different approaches followed in methodology between these years. In Year #1 there was not a risk of individual differences affecting the results as participants were effectively comparing against themselves which is not the case in Year #2.

# 1 Introduction

The Student Switch Off+ (SSO+) campaign aims to raise awareness among students living in private accommodation helping them reduce their energy costs. It focuses on making students aware of energy performance certificates (EPC), smart meters and energy efficiency, thus helping reduce their exposure to fuel poverty.

The SSO+ campaign is brought together with the Student Switch Off (SSO) campaign through the SAVES 2 project (www.saves-project.eu). The Student Switch Off (SSO) campaign is an inter-dormitory energy-saving campaign that focuses on a predefined set of activities, encouraging students to save energy in their dormitories. The focus of this report is on the SSO+ campaign.

SSO+ ran for the first time as a pilot in Cyprus, Greece, Lithuania and the UK in the academic year 2017-18. In academic year 2018-19 the SSO+ campaign was rolled out fully in Cyprus, Greece, Lithuania, the UK but also in three additional countries: Bulgaria, Ireland, and Romania. Activities undertaken as part of the Student Switch Off+ campaign involve in-depth information on saving energy at home, energy performance certificates, energy efficiency and smart energy meters. Activities undertaken as part of the Student Switch Off+, are summarised in the country specific reports found on the SAVES 2 webpage (www.saves-project.eu). In total, 40,139 students living in private accommodation were emailed with advice on SSO+ this academic year.

The purpose of the research presented in this report is to evaluate the increase in the energy awareness of students over academic year 2018-2019 that could be attributed to the SSO+ campaign.

The methodology followed for the assessment of the increase in energy awareness of students is described in Chapter 2. The main tools for the collection of data were pre- and post-intervention questionnaire surveys. Chapter 3 presents the findings of the analysis performed on the collected data. In Chapter 4 a comparison is made between the results of Year 1 and Year 2 of the SSO+ deployment. The full evaluation report for the previous year is found on the SAVES 2 webpage. In Chapter 5 the main conclusions of the research for this academic year are presented.

# 2 Methodology

The aim of this research is to assess the impact of the Student Switch Off+ (SSO+) information campaign on students living in private accommodation. The impact of the SSO+ campaign is evaluated through the level of increased awareness in the two following areas:

a) Use of smart meters
b) Housing choices that can minimize exposure to fuel poverty

Changes in the awareness levels of students were evaluated through pre- and post-intervention questionnaire surveys. Students were encouraged to complete a baseline survey at the beginning of the academic year (October 2018) in order for existing information and awareness levels to be recorded, and a follow-up survey at the end of the academic year (May 2019).

The target response rate for each of the two surveys, baseline and follow-up, was 5% (2,150 students) of the 43,000 students that SSO+ aimed to reach in the academic year 2018/19 (Table 1).

**Table 1 Survey response targets for 2018-19**

| **Country** | **Total number of students to be reached through the SSO+ campaign in 2018/19** | **Target for the SSO+ surveys (5% of students to be reached through SSO+)** |
|---|---|---|
| United Kingdom | 20,000 | 1,000 |
| Greece | 8,000 | 400 |
| Cyprus | 1,000 | 50 |
| Ireland | 3,500 | 175 |
| Lithuania | 6,000 | 300 |
| Romania | 2,000 | 100 |
| Bulgaria | 2,500 | 125 |
| **Total** | **43,000** | **2,150** |

## 2.1 Questionnaire surveys and analysis methods

Online versions of the questionnaire surveys were created on LimeSurvey in Bulgarian, English, Greek, Lithuanian and Romanian. The answers were processed using Microsoft Excel and IBM SPSS software.

Questions in the follow-up questionnaire were identical to those asked in the baseline survey in order to allow for comparison and evaluation of possible changes in the knowledge and awareness levels of students over the academic year.

The questionnaire included multiple-choice, dichotomous and rating scale questions. In multiple-choice questions participants were offered a set of answers they have to choose from while in dichotomous questions had a "yes" and "no" option. The third type of questions was Likert-scale and preference rank order type. In Likert scale questions respondents were asked about the level of agreement with specific statements. Each option was given a score, which was used to analyze results. The preference rank order questions required sequential ranking from high to low until all factors were ranked.

Two proportion z-test was used for testing the difference between the baseline and follow-up survey proportions.

- The null hypothesis ($H_0$) for the test is that the proportions are the same.
- The alternate hypothesis ($H_1$) is that the proportions are **not** the same.

Independent samples t-test was used to determine whether the differences between the baseline and follow-up survey are statistically significant for each of the two groups.

- The null hypothesis ($H_0$) for the independent t-test is that the population means from the two unrelated groups are equal.
- The alternate hypothesis ($H_1$) is that the population means from the two unrelated groups are **not** equal.

In both tests, a significance level to either reject or accept the alternative hypothesis is set at 0.05.

In addition P-values are calculated to support or reject the null hypothesis.

- A small p (≤ 0.05), reject the null hypothesis.
- A large p (> 0.05), accept the alternative hypothesis.

P-values smaller than 0.05 indicate statistically significant results.

## 2.2 Data collection

The baseline and the follow-up questionnaires were incentivized. In both occasions two €25 and one €50 prize incentive were provided. Winners resulted through a draw.

Channels used to disseminate the questionnaire surveys were mainly the participating universities' and students' unions mailing lists. In some cases students were reached via third parties such as other universities or students' unions who disseminate SSO+ materials but whose students we are not able to reach/survey directly. In order to increase participation further, some universities circulated hard copies of the survey as well.

The total number of baseline survey entries was 3,734. Out of those respondents, 2,865 were valid entries, meaning that they lived in private accommodation and answered at least one SSO+ specific question (Table 2). The number of valid entries for the follow-up analysis was 3,110 resulting out of a total of 3,824 entries. In effect, the baseline target of 2,150 entries was met for both surveys (Table 2).

**Table 2 Number of respondents considered in the analysis**

| | **Bulgaria** | **Cyprus** | **Greece** | **Ireland** | **Lithuania** | **Romania** | **UK** | **Total** |
|---|---|---|---|---|---|---|---|---|
| **Baseline** | 5 | 641 | 408 | 271 | 563 | 122 | 855 | 2,865 |
| **Follow-up** | 45 | 608 | 417 | 657 | 405 | 101 | 877 | 3,110 |

The actual number of responses to individual questions for each country and for each survey (baseline and follow-up) are tabulated in Annex I. It is noted that for Bulgaria, due to the very small number of respondents the differences observed in the analysis between the baseline and follow-up survey samples appear to be higher than for the rest of the countries.

# 3 Analysis and Results

## 3.1 Respondent characteristics

Respondent demographics investigated through the questionnaires are gender, age, field of study and accommodation type. The demographic characteristics of each sample (baseline and follow-up) are summarized in Table 3 and further discussed below.

**Gender**

A large proportion of women, compared to men, respondents participated in both surveys (>60%). In Cyprus, Greece, Ireland, Romania and the UK, more women than men participated in both surveys. In Lithuania the number of men respondents was higher in both surveys (55% men participants in both). This can be attributed to the fact that surveys were circulated in a technical university where a higher proportion of men studies. In all countries except for Bulgaria and Romania the shares of women/men respondents in the two surveys were at similar levels. In Bulgaria more women students took part in the follow-up survey (20% baseline; 71% follow-up) while in Romania, the share of women respondents reduced from 84% in the baseline to 59% in the follow-up. In both surveys, a small percentage of participants did not state their gender or defined themselves as non-binary or in another way (<1% of total sample in both cases).

**Age**

The biggest share of respondents in both the baseline (53%) and the follow-up (48%) survey was between 18-20 years of age. A large proportion of respondents was also between 21-24 years of age (34% in the baseline and 40% in the follow-up). In all individual countries the majority of students were between 18-24 years of age. However, Cyprus, Greece, Ireland and Lithuania had a good share of students in the age group of 25-29 in both surveys (between 8.9% and 13.4%). On the other hand, the UK had the youngest population of respondents with the majority (80% in the baseline and 72% in the follow-up) being between 18-20 years of age. In Cyprus and Lithuania more than 5% of respondents were over 30 years of age in both surveys. Bulgaria and Cyprus had the highest share of respondents older than 30 years old in the baseline (20% and 8%, respectively) and Romania in the follow-up (7%).

**Field of study**

Overall, respondents studied all main subjects of study in both surveys, however, the main subjects of study varied between countries as this relied a lot on the type of university and studies offered at the participating universities. The biggest share of respondents (27% baseline; 23% follow-up) studied architecture, engineering or technology. The second most represented subject of study (23% baseline; 22% follow-up) was social sciences. The least studied field, compared to the others, was Life Sciences / Medicine (13% baseline; 14% follow-up).

In all countries there was a good mixture of fields of study in both surveys. Only in Lithuania, there was a very large share of respondents studying architecture, engineering or technology in both cases (72% baseline; 73% follow-up). Noticeable differences in the fields of study between the respondents of the baseline and the follow-up surveys were observed mostly in Bulgaria and Romania.

**Accommodation type**

In both surveys the majority of respondents (>60%) lived in rented accommodation, either in a privately rented house (44% in both surveys) or in a rented room in a landlord's house (21% in both surveys). There was a good share of students (~30% in both surveys) living with their parents as well. As expected, only a small proportion of respondents (~5%) of both the baseline and the follow-up survey lived in a place they owned.

The proportion of students living in each accommodation types was very similar between the two surveys in most countries suggesting specific preferences for private student accommodation types in those countries. In Cyprus, Greece and Romania the majority of respondents in both surveys either lived in privately rented homes or in their family home. The UK had a high proportion of students living in privately rented houses in both surveys (68% baseline; 62% follow-up) but also had fair shares of respondents living in rented rooms in their landlord's house (27% baseline; 34% follow-up). Living in a rented room in a landlord's is quite common in Lithuania (39% baseline; 37% follow-up) and Ireland as well (28% baseline; 21% follow-up). However, in Lithuania it appears to be even more common to live in your family home (48% baseline; 45% follow-up). For

Ireland a clear pattern for accommodation types is not found since different accommodation types prevail in the two surveys. In Bulgaria the majority of respondents lived in privately rented houses (60% in both surveys).

Even though SSO+ is aimed at students who live in privately rented accommodation, 30% of students included in this research lived in their family home and 5% more lived in a home that they owned. However, it was considered useful to include them in the analysis, as the actions promoted through the SSO+ campaign are relevant for those who also live in owned/family accommodation as well. Some of the actions may even be easier for them to take (e.g. switching providers or getting a smart meter) whilst others (e.g. encouraging them to move to a property with a better EPC) maybe less so although they may become aware of the benefits of upgrading the energy performance of their own or family's home and actually move forward with it.

**Table 3 Respondents' demographics (B: baseline; F: follow-up)**

| | Bulgaria | | Cyprus | | Greece | | Ireland | | Lithuania | | Romania | | UK | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | F | B | F | B | F | B | F | B | F | B | F | B | F | B | F |
| **Gender** | | | | | | | | | | | | | | | | |
| **Women** | 20.0% | 71.1% | 68.9% | 66.2% | 57.6% | 54.8% | 70.1% | 74.8% | 44.2% | 44.2% | 83.7% | 59.4% | 70.6% | 75.2% | 63.6% | 66.0% |
| **Men** | 80.0% | 28.9% | 29.4% | 32.8% | 42.2% | 43.8% | 27.3% | 23.8% | 54.9% | 54.8% | 15.4% | 40.6% | 28.3% | 23.5% | 35.2% | 32.8% |
| **In another way/ Non binary** | 0.0% | 0.0% | 0.5% | 0.5% | 0.2% | 0.9% | 2.7% | 0.8% | 0.5% | 0.5% | 0.0% | 0.0% | 0.6% | 0.8% | 0.7% | 0.6% |
| **Prefer not to say** | 0.0% | 0.0% | 1.3% | 0.5% | 0.0% | 0.5% | 0.0% | 0.6% | 0.4% | 0.5% | 0.8% | 0.0% | 0.6% | 0.5% | 0.6% | 0.5% |
| **Age** | | | | | | | | | | | | | | | | |
| **18-20** | 0.0% | 55.6% | 39.5% | 35.7% | 38.2% | 37.2% | 41.7% | 44.1% | 41.0% | 30.1% | 65.9% | 41.6% | 80.1% | 72.4% | 53.0% | 47.8% |
| **21-24** | 80.0% | 40.0% | 38.8% | 48.7% | 48.3% | 44.6% | 45.0% | 43.1% | 42.1% | 52.6% | 30.9% | 48.5% | 14.3% | 21.6% | 33.8% | 39.7% |
| **25-29** | 0.0% | 2.2% | 12.8% | 8.9% | 10.3% | 13.4% | 10.3% | 8.2% | 11.0% | 11.9% | 1.6% | 3.0% | 4.0% | 4.3% | 8.7% | 8.2% |
| **30+** | 20.0% | 0.0% | 7.8% | 6.4% | 2.0% | 4.3% | 2.2% | 4.4% | 5.5% | 5.4% | 1.6% | 6.9% | 1.4% | 1.7% | 3.8% | 4.2% |
| **I'd rather not say** | 0.0% | 2.2% | 1.1% | 0.3% | 1.2% | 0.5% | 0.7% | 0.2% | 0.4% | 0.0% | 0.0% | 0.0% | 0.2% | 0.0% | 0.6% | 0.2% |
| **Field of study** | | | | | | | | | | | | | | | | |
| **Architecture/ Engineering/ Technology** | 0.0% | 8.9% | 16.5% | 17.8% | 23.6% | 28.2% | 15.5% | 12.5% | 71.8% | 73.3% | 2.6% | 17.9% | 12.7% | 11.2% | 26.7% | 23.4% |
| **Arts / Humanities** | 40.0% | 22.2% | 17.5% | 17.4% | 25.6% | 18.8% | 39.4% | 38.0% | 2.3% | 1.5% | 28.1% | 13.7% | 22.1% | 23.6% | 19.5% | 21.6% |
| **Life Sciences / Medicine** | 0.0% | 26.7% | 10.0% | 7.3% | 7.6% | 3.4% | 22.7% | 20.1% | 0.5% | 1.0% | 3.5% | 9.5% | 24.6% | 26.1% | 13.1% | 14.3% |
| **Mathematics/ Natural Sciences** | 60.0% | 17.8% | 22.7% | 21.5% | 30.0% | 38.6% | 7.6% | 15.4% | 8.7% | 8.1% | 19.3% | 20.0% | 15.8% | 14.2% | 17.4% | 18.6% |
| **Social Sciences** | 0.0% | 24.4% | 33.3% | 36.0% | 13.1% | 11.1% | 14.8% | 14.0% | 16.7% | 16.0% | 46.5% | 38.9% | 24.8% | 24.9% | 23.2% | 22.1% |
| **Accommodation** | | | | | | | | | | | | | | | | |
| **Privately rented house** | 60.0% | 60.0% | 41.4% | 45.1% | 36.7% | 39.8% | 64.2% | 37.3% | 3.1% | 4.9% | 66.7% | 83.2% | 68.1% | 62.2% | 44.4% | 43.7% |
| **Rented room in landlord's house** | 20.0% | 8.9% | 5.3% | 4.4% | 5.9% | 4.8% | 28.0% | 21.0% | 39.4% | 36.8% | 4.9% | 4.0% | 27.0% | 33.5% | 20.7% | 20.5% |
| **Living in a place I own** | 20.0% | 6.7% | 7.6% | 6.3% | 12.3% | 10.6% | 0.0% | 2.0% | 9.9% | 13.6% | 7.3% | 6.9% | 0.9% | 1.0% | 6.0% | 5.4% |
| **Living in my family home** | 0.0% | 24.4% | 45.7% | 44.2% | 45.1% | 44.8% | 7.7% | 39.7% | 47.6% | 44.7% | 21.1% | 5.9% | 4.0% | 3.3% | 28.8% | 30.4% |

## 3.2 Familiarization with the SSO+ campaign

Respondents were asked whether they had heard of the Students Switch Off+ (SSO+) campaign before. It is noted that this was the second consecutive academic year that SSO+ run in Cyprus, Greece, Lithuania and the UK so it was expected for some of the respondents of the baseline survey to already be familiar with the campaign.

Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. The results of those who answered positively ("Yes") to this question are shown in Figure 1 and tabulated in Table 4.

At the end of the academic year a higher share of respondents (+6%) had heard about the SSO+ campaign compared to the beginning of the academic year. This increase is statistically significant (z=-4.358, p< .00001). The share of respondents that had heard of the SSO+ survey was 41% in the follow-up survey and 36% in the baseline.

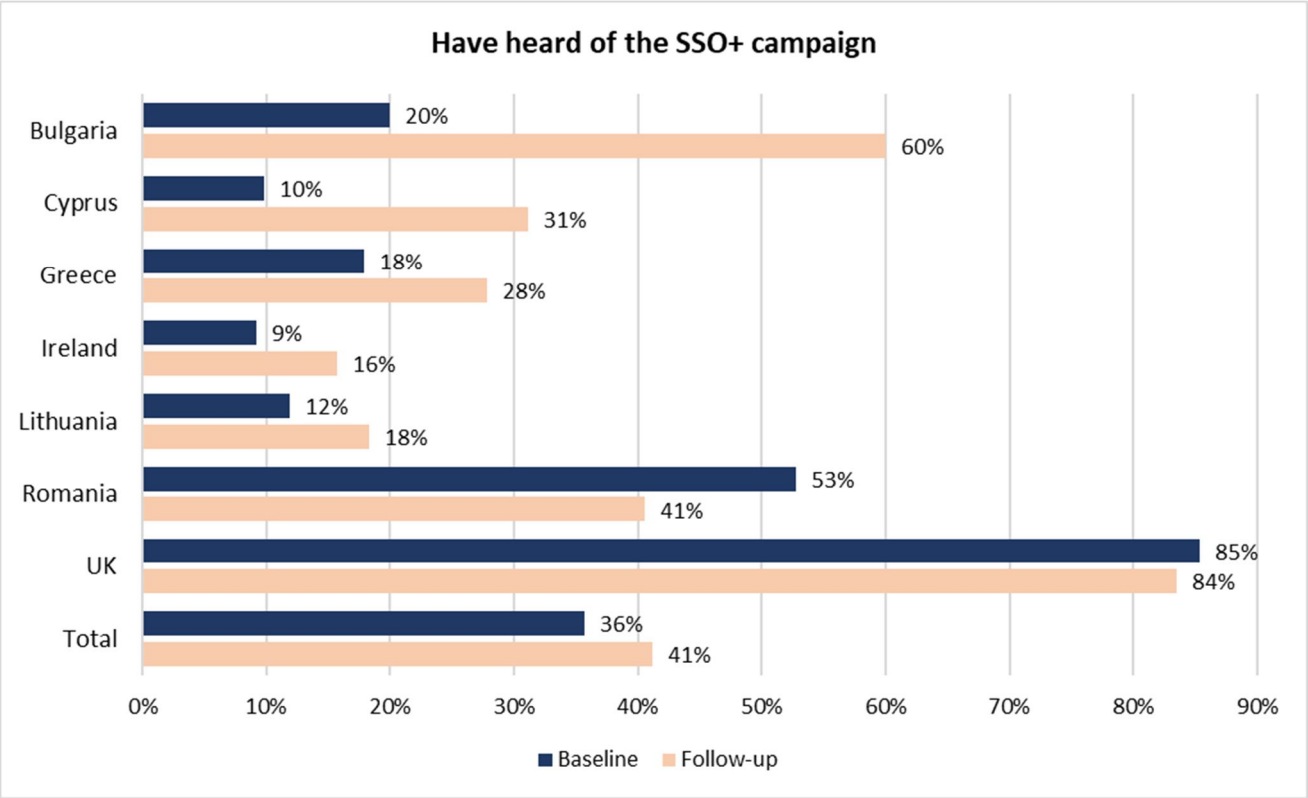


**Figure 1 Familiarization with the SSO+ campaign – Total sample**

Apart from Romania and the UK, in the other five countries, more respondents had heard about the SSO+ campaign at the end of the academic year compared to the beginning (Table 4). The increase in the number of respondents that had heard of the SSO+ campaign at the end of the academic year compared to the beginning is statistically significant in Cyprus, Greece, Ireland and Lithuania.

The highest statistically significant increase (+21%) is observed in **Cyprus** where 31% of the respondents had heard of the campaign at the end of the year (z=-9.357 , p<.0001).

In **Greece**, a statistically significant increase of +10% is recorded (z=-3.392, p=0.0003). In the beginning of the academic year 18% of those surveyed had heard of the SSO+ campaign before whereas that share in the end of the year increased to 28%.

In **Lithuania**, a statistically significant increase of +6% is observed and 18% of the respondents stated they had heard of the SSO+ campaign by the end of the academic year (z=-2.772, p=0.003).

In the **UK**, although a decrease of approximately -2% is observed, the majority of the respondents (84%), which was in fact the biggest in all countries, had heard of the SSO+ campaign at the end of the academic year.

In **Ireland** a statistically significant increase of +7% is observed (z=-2.592, p=0.005). The share of respondents who had heard of the SSO+ campaign in the beginning of the academic year was 9% and reached 16% in the end of the academic year. It could be that some of the baseline respondents had heard of SSO the previous academic year, 2017-18, and thought that it was the same campaign as SSO+ thus answering that they had heard of the SSO+ campaign (9% of baseline respondents).

In **Romania**, at the beginning of the academic year 53% stated that they had heard of the SSO+ campaign before whereas this share was 41% at the end of the academic year (-12% reduction). However, this reduction was not statistically important. It is assumed that, in addition to confusing SSO for SSO+, the recruitment process for the SSO+ student ambassadors may have lifted the baseline survey percentages (53%) of those who had previously heard of the campaign.

In **Bulgaria**, although a +40% increase is recorded, it is difficult to evaluate the importance of this increase given the very small sample size for the specific country. As in Ireland, 20% of the baseline respondents may have thought that SSO, which they had come across the year before was the same campaign as SSO+ thus answering that they had heard of the SSO+ campaign.

**Table 4 Familiarization with the SSO+ campaign - per country and total sample**

| **Have you heard of the Student Switch Off+ (SSO+) campaign?** | | **Bulgaria** | **Cyprus** | **Greece** | **Ireland** | **Lithuania** | **Romania** | **UK** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| Yes | **Follow-up** | 60.0% | 31.1% | 27.8% | 15.7% | 18.3% | 40.6% | 83.5% | 41.2% |
| | **Baseline** | 20.0% | 9.8% | 17.9% | 9.2% | 11.9% | 52.8% | 85.4% | 35.7% |
| | **difference from baseline** | 40.0% | **21.3%*** | **9.9%*** | **6.5%*** | **6.4%*** | -12.2% | -1.9% | **5.5%*** |
| No | **Follow-up** | 40.0% | 68.9% | 72.2% | 84.3% | 81.7% | 59.4% | 16.5% | 58.8% |
| | **Baseline** | 80.0% | 90.2% | 82.1% | 90.8% | 88.1% | 47.2% | 14.6% | 64.3% |
| | **difference from baseline** | -40.0% | -21.3% | -9.9% | -6.5% | -6.4% | 12.2% | 1.9% | -5.5% |

## 3.3 Sources of information about the SSO+ campaign

Respondents who had heard of the SSO+ campaign, were asked to specify where did they hear about the Student Switch Off+ campaign from a predefined list of sources. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions were statistically significant. P-values smaller than 0.05 indicate statistically significant results. The results for the total sample are shown in Figure 2 and tabulated in Table 5 for total sample and per country.

At the end of the academic year the most popular sources of information about the SSO+ campaign were emails (58%), posters (39%) and social media (39%). On the contrary only 10% of those surveyed reported they had heard about the SSO+ campaign from a friend, 7% from a classmate and 4% from seminars.

The sources of information about the SSO+ campaign with the highest positive difference over the academic year were emails (+8%) and social media (+6%) (Table 5). In both case the difference was statistically significant (emails: z=-4.086, p<.0001 and social media: z=-3.238 , p=0.001).

The study also showed that posters (-6% decrease from baseline survey), seminars (-2%), classmates (-2%) and friends (-1%) were the least popular sources of SSO+ information in both surveys and their popularity

decreased further over the year. The decrease observed in "posters" is also statistically significant (z=2.867, p=0.004).

Respondents of the baseline survey in **Bulgaria** had only heard about the SSO+ campaign from emails (Table 5). At the end of the academic year respondents also reported hearing about SSO+ from posters" (4%), a friend (15%), a classmate (19%) and from social media (41%).

In the baseline survey, most of the respondents from **Cyprus** had heard about the SSO+ campaign from "emails" (78%), and social media (38%). In the follow-up survey the proportion of respondents that had heard about SSO+ from email increased by +19% (z=-2.974, p=0.003) while social media remained among the most influential sources of information however, a small decrease (-4%) in those that has heard about SSO+ through emails is observed in the follow-up respondents. The most notable reduction (-7%) was observed in the share of students that had heard about SSO+ from a classmate" (4% in the follow-up); however this difference was not statistically significant.

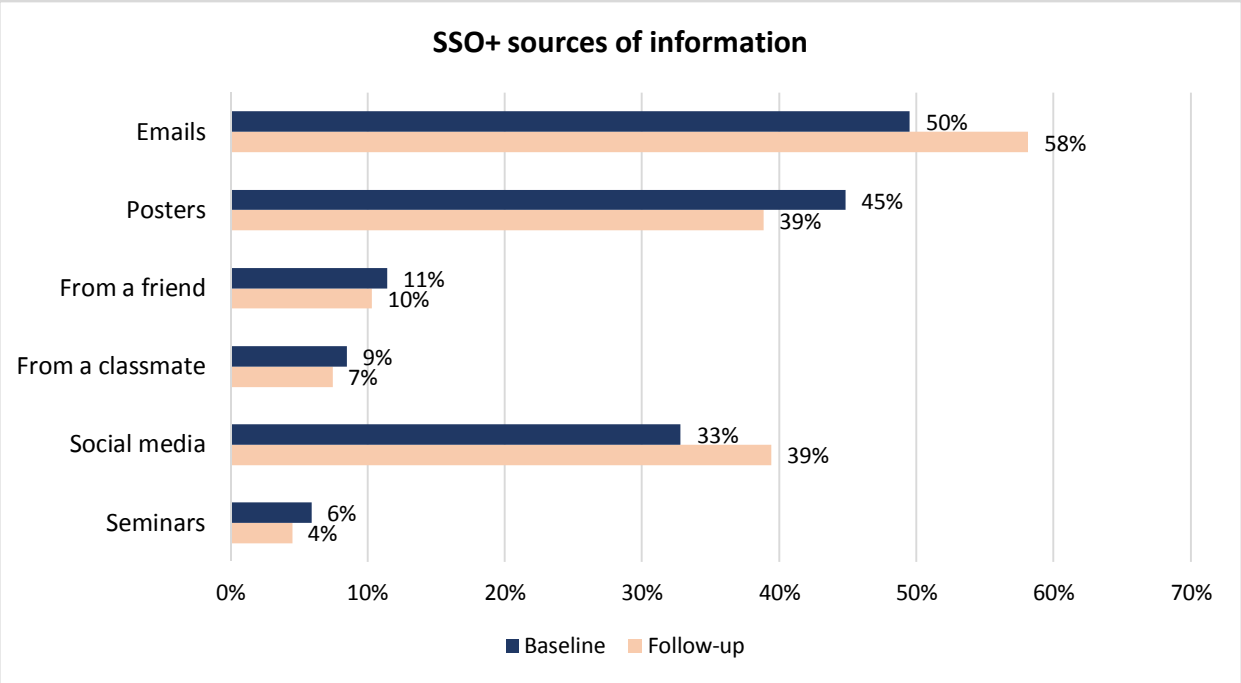


**Figure 2 Sources of information about the SSO+ campaign – Total sample**

In **Greece** the most frequently occurring answers at the end of the academic year were "social media" (31%) and "from a classmate" (31%). Social media had a +1% increase in the follow-up survey while the "from a classmate" option had a -4% decrease. In addition, in the follow-up survey, 22% of respondents stated they had heard about the SSO+ campaign, "from a friend" and this share changed just by -1% through the academic year. "Seminars" (14%) had +12% more responses in the follow-up survey (z=-2.578, p=0.005) while "posters" (16%) recorded the biggest decrease (-7%) which nonetheless was not statistically significant.

In **Ireland** 71% of the respondents of the follow-up survey had heard about the SSO+ campaign through social media and 27% from posters. Social media had 27% more responses compared to the baseline survey (z=-2.581, p=0.005). The findings have also revealed that posters were among the main sources of information about the SSO+ campaign in both surveys although a 6% decrease, that nonetheless was not statistically significant, is observed between the baseline and the follow-up surveys. On the contrary, a statistically significant decrease of 10% is observed in the proportion of students that selected seminars (2%) in the follow-up survey (z=2.251, p=0.024).

In **Lithuania** the most frequently occurring response in both surveys was social media and emails. Sixty-one percent (61%) of the follow-up respondents had heard about the SSO+ campaign from social media, although a small, not statistically significant decrease of 3%, is observed from the baseline survey. Emails also played a

key role in the dissemination of the SSO+ campaign as more than half (51%) of the respondents had heard about the campaign from emails; a +14% increase is recorded in this option compared to the beginning of the academic year which was however not statistically significant.

Social media (41%) and classmates (23%) were the most frequently occurring follow-up responses in **Romania**, but posters (15%) and friends (18%) were also quite popular. Social media had a +18% increase in responses compared to the beginning of the academic year. On the other hand, 15% less respondents had heard about the SSO+ campaign from seminars. None of the differences observed in Romania was statistically significant.

The majority of the **UK** follow-up respondents had heard about the SSO+ campaign from emails (58%) but posters (54%) and social media (34%) were very popular as well. Emails had a statistically significant increase of +9% from the baseline survey (z=-3.687, p=0.0001) while social media had +4% increase which however, was not statistically significant.

**Table 5 Sources of information about the SSO+ campaign – Total sample and per country**

| Sources of information about the SSO+ campaign | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Emails | **Follow-up** | 81.5% | 78.0% | 14.3% | 19.4% | 51.4% | 7.7% | 67.5% | 58.1% |
| | **Baseline** | 100.0% | 58.7% | 20.5% | 12.0% | 37.3% | 3.1% | 58.1% | 49.5% |
| | **difference from baseline** | -18.5% | **19.3%*** | -6.2% | 7.4% | 14.1% | 4.6% | **9.4%*** | **8.6%*** |
| Posters | **Follow-up** | 3.7% | 16.1% | 16.2% | 26.5% | 25.0% | 15.4% | 54.2% | 38.8% |
| | **Baseline** | 0.0% | 22.2% | 23.3% | 32.0% | 28.4% | 10.8% | 54.0% | 44.8% |
| | **difference from baseline** | 3.7% | -6.1% | -7.1% | -5.5% | -3.4% | 4.6% | 0.2% | **-6.0%*** |
| From a friend | **Follow-up** | 14.8% | 5.9% | 21.9% | 11.2% | 12.5% | 17.9% | 8.8% | 10.3% |
| | **Baseline** | 0.0% | 12.7% | 23.3% | 20.0% | 19.4% | 23.1% | 8.1% | 11.4% |
| | **difference from baseline** | 14.8% | -6.8% | -1.4% | -8.8% | -6.9% | -5.2% | 0.7% | -1.1% |
| From a classmate | **Follow-up** | 18.5% | 3.8% | 30.5% | 8.2% | 8.3% | 23.1% | 3.4% | 7.4% |
| | **Baseline** | 0.0% | 11.1% | 34.2% | 4.0% | 14.9% | 26.2% | 3.7% | 8.5% |
| | **difference from baseline** | 18.5% | -7.3% | -3.7% | 4.2% | -6.6% | -3.1% | -0.3% | -1.1% |
| Social media | **Follow-up** | 40.7% | 37.6% | 31.4% | 71.4% | 61.1% | 41.0% | 34.2% | 39.4% |
| | **Baseline** | 0.0% | 41.3% | 30.1% | 44.0% | 64.2% | 23.1% | 30.0% | 32.8% |
| | **difference from baseline** | 40.7% | -3.7% | 1.3% | **27.4%*** | -3.1% | 17.9% | 4.2% | **6.6%*** |
| Seminars | **Follow-up** | 0.0% | 3.2% | 14.3% | 2.0% | 1.4% | 12.8% | 3.7% | 4.5% |
| | **Baseline** | 0.0% | 3.2% | 2.7% | 12.0% | 3.0% | 27.7% | 4.5% | 5.9% |
| | **difference from baseline** | 0.0% | 0.0% | **11.6%*** | **-10.0%*** | -1.6% | -14.9% | -0.8% | -1.4% |

*: statistically significant difference

## 3.4 Influence of Student Switch Off+ campaign

Respondents who had heard of the SSO+ campaign (see section 3.2) were asked to report on the ways in which the SSO+ campaign had influenced them. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. Results are summarized in Table 6 for each country and for the total sample and in Figure 3 for the total number of respondents.

Most of the respondents in both the baseline (41%) and the follow-up survey (35%) stated that the SSO+ campaign helped them to reduce their energy costs. In addition, in the follow-up survey a slightly higher proportion of respondents (+1%) was aware of energy performance certificates and of smart meters as a result of the SSO+ campaign. The share of respondents who stated that the SSO+ campaign helped them to select energy-efficient house appliances stayed the same through the academic year (8%).

Thirty-two percent of follow-up respondents stated that the SSO+ campaign has not influenced them. Respondents not influenced by SSO+ mainly come from Cyprus (34%), Greece (25%), Ireland (25%), Lithuania (47%) and the UK (35%).

Overall, a statistically significant decrease of -6% is observed in the share of respondents the SSO+ campaign helped to reduce their energy costs (z=2.980, p=0.003) and a statistically significant increase of +5% is found in the proportion of participants the SSO+ campaign has not influenced (z=-2.390, p=0.017). In total, 68% of those participated in the follow-up survey were positively influenced by the SSO+ campaign whereas this share was 73% in the baseline survey.

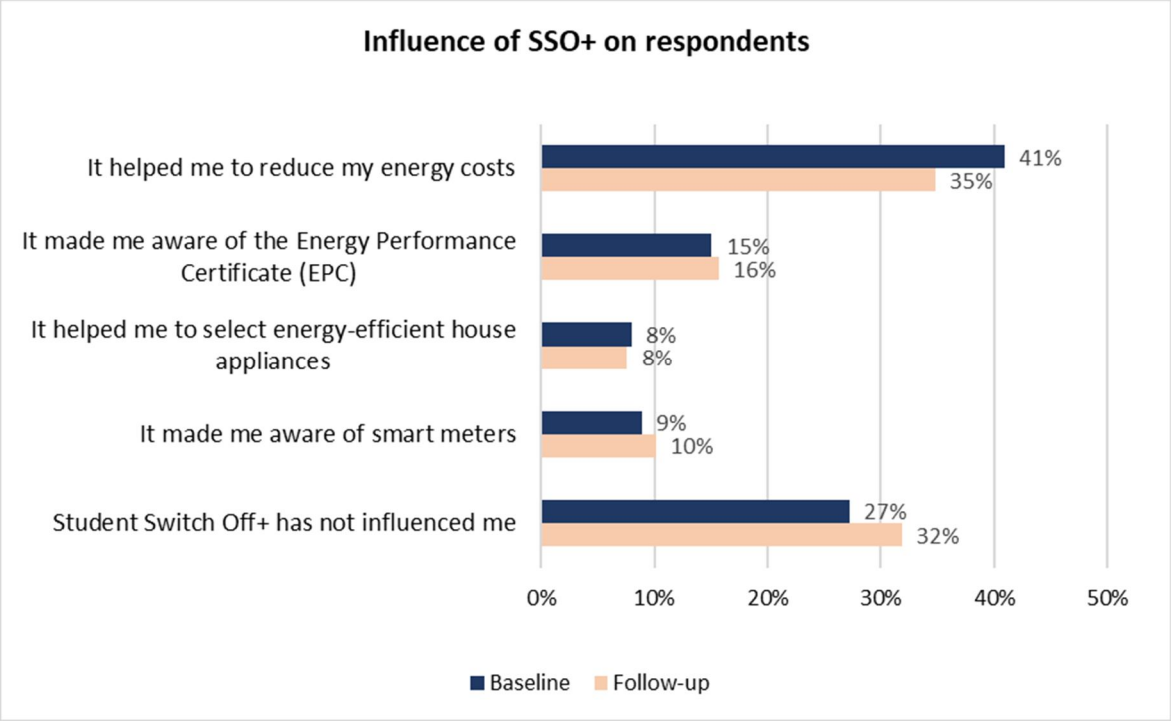


Figure 3 Influence of Student Switch Off+ campaign on respondents – Total sample

Follow-up respondents from **Bulgaria** reported that the campaign helped them reduce their energy costs (73%) and made them aware of EPCs (4%) and smart meters (23%). Only one respondent of the baseline answered this question – the criterion to answer the question was to have heard of SSO+ before - and which stated that SSO+ had not influenced them.

In **Cyprus** 66% of the follow-up respondents had been influenced by the SSO+ campaign in a positive way**.** Thirty-eight percent (38%) of the follow-up respondents reported that the SSO+ campaign helped them reduce

their energy costs and 11% stated the campaign helped them select energy efficient house appliances. However, the share of those which the campaign helped reduce their energy costs was higher in the baseline survey (51%). Moreover, the share of respondents who stated that the SSO+ campaign made them aware of smart meters showed a statistically significant decrease of -11% in the follow-up survey ($z=2.367$, $p=0.018$). It is important to highlight though that in Cyprus, the SSO+ campaign didn't particularly focus on smart meter awareness because their roll-out in the country has been delayed. On the other hand, a higher share of follow-up respondents pointed out that the SSO+ campaign helped them select energy efficient appliances (+5%) and made them aware of the EPC (+2%).

**Table 6 Influence of the Student Switch Off+ campaign on respondents - Total sample and per country**

| **Influence of the SSO+ campaign** | | **Bulgaria** | **Cyprus** | **Greece** | **Ireland** | **Lithuania** | **Romania** | **UK** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| It helped me to reduce my energy costs | **Follow-up** | 73.1% | 37.6% | 29.2% | 38.0% | 9.6% | 50.0% | 34.8% | 34.8% |
| | **Baseline** | 0.0% | 50.8% | 39.4% | 40.0% | 10.4% | 64.1% | 41.0% | 40.9% |
| | **difference from baseline** | 73.1% | -13.2% | -10.2% | -2.0% | -0.8% | -14.1% | **-6.2%*** | **-6.1%*** |
| It made me aware of the Energy Performance Certificate (EPC) | **Follow-up** | 3.8% | 9.1% | 15.9% | 23.0% | 13.7% | 17.5% | 16.9% | 15.7% |
| | **Baseline** | 0.0% | 1.6% | 18.3% | 20.0% | 16.4% | 4.7% | 16.5% | 15.1% |
| | **difference from baseline** | 3.8% | 7.5% | -2.4% | 3.0% | -2.7% | **12.8%*** | 0.4% | 0.6% |
| It helped me to select energy-efficient house appliances | **Follow-up** | 0.0% | 10.8% | 18.6% | 4.0% | 13.7% | 5.0% | 5.2% | 7.6% |
| | **Baseline** | 0.0% | 4.9% | 8.5% | 8.0% | 17.9% | 3.1% | 7.7% | 8.0% |
| | **difference from baseline** | 0.0% | 5.9% | 10.1% | -4.0% | -4.2% | 1.9% | -2.5% | -0.4% |
| It made me aware of smart meters | **Follow-up** | 23.1% | 8.6% | 11.5% | 10.0% | 16.4% | 20.0% | 8.7% | 10.1% |
| | **Baseline** | 0.0% | 19.7% | 8.5% | 4.0% | 14.9% | 6.3% | 7.8% | 8.9% |
| | **difference from baseline** | 23.1% | **-11.1%*** | 3.0% | 6.0% | 1.5% | **13.7%*** | 0.9% | 1.2% |
| Student Switch Off+ has not influenced me | **Follow-up** | 0.0% | 33.9% | 24.8% | 25.0% | 46.6% | 7.5% | 34.5% | 31.9% |
| | **Baseline** | 100.0% | 23.0% | 25.4% | 28.0% | 40.3% | 21.9% | 26.9% | 27.2% |
| | **difference from baseline** | -100.0% | 10.9% | -0.6% | -3.0% | 6.3% | -14.4% | **7.6%*** | **4.7%*** |

*: statistically significant difference

At the end of the academic year, approximately 75% of those surveyed in **Greece** were positively influenced by the SSO+ campaign (+1% increase from the beginning of the academic year). Twenty-nine percent (29%) reported that the campaign helped them reduce their energy costs and 19% reported that the campaign helped them select energy efficient house appliances (-10% decrease and +10% increase from baseline survey, respectively). Moreover, 16% stated that the SSO+ campaign made them aware of the EPC and 12% that it made them aware of smart meters. No statistically significant differences between the baseline and follow-up were observed in Greece.

In **Ireland**, as in Greece, at the end of the year 75% of the respondents had been influenced by the SSO+ campaign in a positive way (+3% increase from baseline). Thirty-eight percent (38%) of them reported that the SSO+ campaign helped them reduce their energy costs and made them aware of EPCs (23%). By the end of the academic year, more follow-up respondents had become aware of EPCs (+3%) and smart meters (+6%) (23% and 10% in the follow-up survey, respectively). However, 4% less participants stated that the SSO+ campaign helped them to select energy efficient appliances. However, none of the differences in Ireland were statistically significant.

In **Lithuania** 53% of the follow-up survey respondents felt influenced by the SSO+ campaign. The SSO+ campaign helped 10% of the respondents in both surveys to reduce their energy costs. Also, at the end of the academic year more respondents were aware of smart meters (16%) as a result of the SSO+ campaign (+2% increase). Furthermore, 14% of follow-up respondents stated to be aware of the EPC and being helped in selecting energy efficient appliances as a result of the campaign. In Lithuania, the highest shares of respondents not influenced by the SSO+ campaign are recorded in both surveys; 40% in the baseline and 47% in the follow-up survey. This might be attributed to the fact that the majority of Lithuanian respondents was involved in engineering fields of study and were already aware of EPCs, smart meters and other SSO+ campaign related topics from lectures at the university. In addition, the media in Lithuania widely promote energy efficiency. As a result, respondents felt less influenced by the SSO+ campaign. None of the differences in Lithuania were statistically significant.

The vast majority of follow-up respondents in **Romania** (93%) were somehow influenced by the SSO+ campaign (+14% increase from baseline). Although, half of the follow-up respondents stated that the SSO+ campaign helped them to reduce their energy costs the most important differences are observed in the awareness of EPCs and smart meters. Statistically significant increases (+13% and +14%, respectively) are observed in the proportion of respondents becoming aware of the Energy Performance Certificate (18%) and of smart meters respectively (20%) (*z=-2.156, p=0.03 and z=-2.135, p=0.03 respectively*). A lower share of respondents (5%) but still higher than in the baseline (+2% increase) stated that the campaign helped them select energy efficient house appliances.

In the **UK** 65% of the follow-up respondents were positively influenced by the SSO+ campaign. Thirty-five (35%) of the follow-up participants had been helped to reduce their energy costs, however this share was higher in the baseline survey (-6% in the follow-up survey) and the decrease was statistically significant (*z=2.439, p=0.014*). Furthermore, 17% of the follow-up respondents felt that the campaign made them aware of the energy performance certificate at both the beginning and the end of the academic year. Moreover, 9% of the follow-up respondents became aware of smart meters (+1% increase from baseline), while 5% were helped in selecting energy efficient appliances (-3% decrease from the baseline survey). Finally, a statistically significant decrease in the proportion of students influenced by SSO+ (-8%) is observed for the follow-up survey (*z=-3.095, p=0.002*). This could be attributed on the one hand to the fact that respondents might have had high energy costs despite taking energy saving advice, due to bad housing quality maybe, and on the other hand that the SSO+ campaign was not as intensive as the SSO campaign as it does not have on the ground presence or very interactive engagement activities.

## 3.5 Perceived level of information about energy and environmental issues

All respondents were asked to rate how well informed they felt about a number of issues that involved the energy and environmental performance of their home. Results are on a 1 to 5 scale (1= Very badly informed, 2 = Fairly badly informed, 3 = Neither well or badly informed, 4 = Fairly well informed, 5 = Very well informed). The higher the mean value (M) the better informed the respondents feel. A low standard deviation (SD) indicates that the given answers tend to be close to the mean value, while a high standard deviation indicates that the given answers are spread out over a wider range of values. Independent samples t-test was used to determine whether the differences in the mean values recorded in the baseline and follow-up survey are statistically significant. P-values smaller than 0.05 indicate statistically significant differences in the mean value. Results are summarized in Table 7 – Table 13 for the total sample and each country, and illustrated in Figure 4 for the total number of respondents.

Overall, respondents of both surveys felt rather neutrally informed about the energy they personally consume in their home, about the impact their energy saving measures have on their energy bill and about the impact of cold homes on their health and wellbeing (Figure 4). Respondents' perceived level of information about the

impact that energy saving solutions can have to help reduce global warming and about what they can do to personally save energy in their accommodation was rather positive while improvements could be made to the level of information about their tariff choices and rights for choosing and changing their energy provider. The differences in mean values between the baseline and the follow-up survey for the total sample are minor for all options.

Independent-samples t-test shows a statistically significant increase of +3% in the total sample's level of information about the impact of cold homes on respondents health (*t(5381)=-2.456, p=0.014*) and a statistically significant decrease of -2% in the level of information about how much respondents personally consume in their accommodation (*t(5402)=2.380, p=0.017*) and the impact their energy saving measures have on their energy bills (*t(5358)=2.678, p=0.007*).

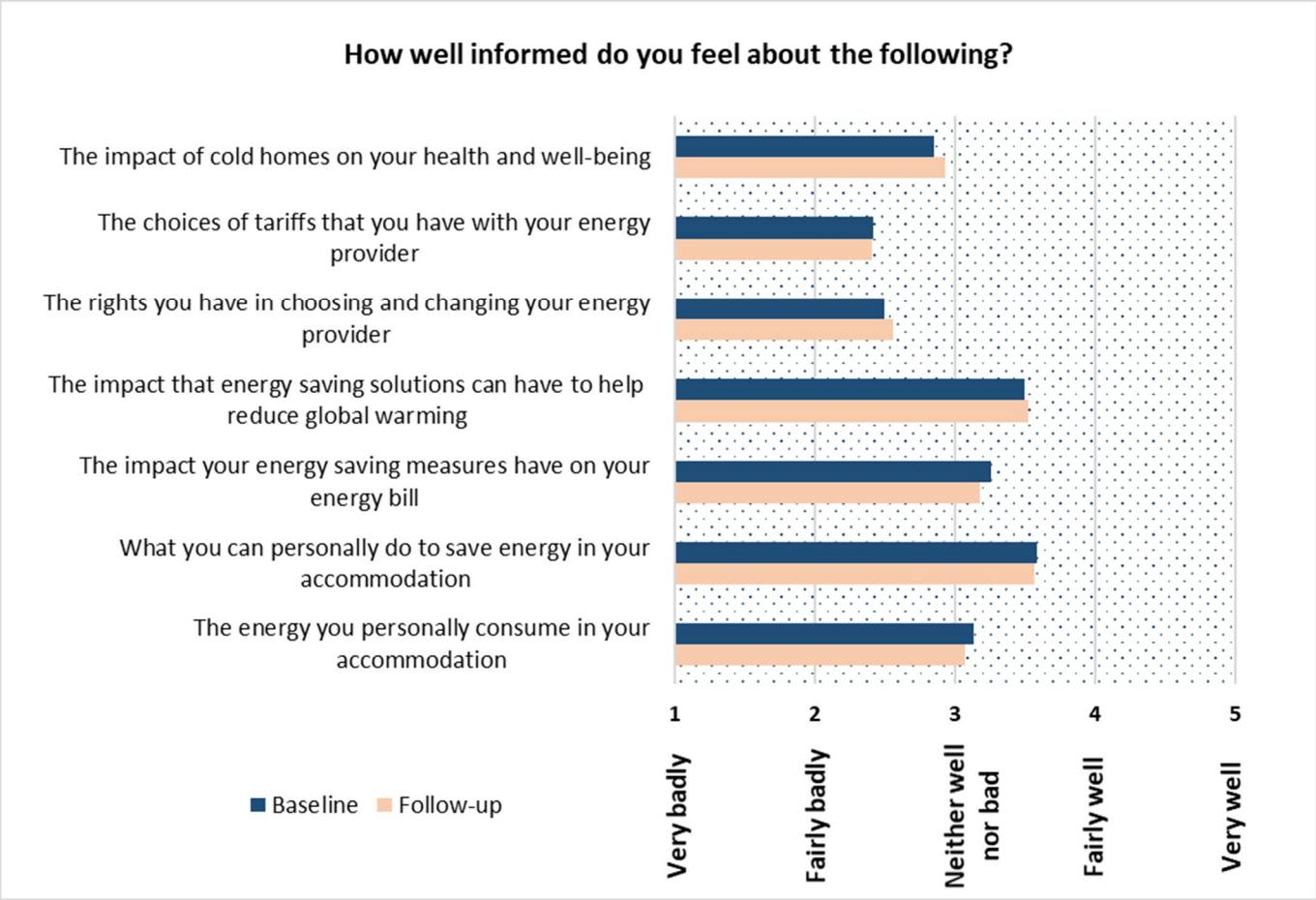


**Figure 4 Mean values of perceived level of information about energy and environmental issues - Total sample**

Respondents of the follow-up survey from **Cyprus** felt more informed about the choices of tariffs they have with their energy provider (+3% increase in mean value). On the other hand, a small decrease in their awareness level (-1% decrease in mean value) is observed in what they can personally do to save energy in their accommodation.

Respondents of the follow-up survey from **Greece** and the **UK** felt more informed about the impact that cold homes can have on their health and wellbeing (+7% and +5% increase in mean values, respectively) compared to the baseline respondents. Both increases are statistically significant [Greece: *t(790)=-2.444, p=0.015* and UK*: t(1551)=-2.285, p=0.022].*

On the contrary baseline respondents from Greece felt more informed about the energy they consumed in their accommodation compared to the baseline respondents (-3% decrease in the mean value). In the UK a

statistically significant decrease (-4%) is observed in the level of information that students had about the impact their energy saving measures have on their energy bill (*t(1546)=2.189, p=0.029*). Moreover a statistical significant decrease is observed in the level of information they felt they had about the energy they personally consume in their accommodation (*t(1551)=2.084, p=0.037*). These differences in the UK are possibly attributed to that student participants often live in large shared houses where there is a disconnect between bills and what can be attributed to individual housemates or energy saving behaviours.

In **Ireland** the follow-up respondents felt more informed (+10% increase in mean value) about the rights they have in choosing and changing their energy provider (*t(360)=-2.317, p=0.021*). Apart from the aforementioned, respondents from Ireland showed increased awareness levels in all asked issues that involved their energy consumption but these were not statistically significant. The smallest increase recorded in Irish respondents awareness levels, compared to the beginning of the academic year, is about the impact their energy saving measures have on their energy bill (+1% increase).

The follow-up respondents in **Lithuania** felt better informed (+7% increase in mean value) about the rights they have in choosing and changing their energy provider ( *t(846)=-2.023, p=0.043*). A -4% decrease was also found in the level of knowledge about the impacts of cold homes on respondents' their health and wellbeing, that nonetheless was not statistically significant.

As in Ireland and Lithuania, follow-up respondents from **Romania** felt more informed about the rights they have in choosing and changing their energy providers compared to those of the baseline survey (+11% increase in the mean value). However, the opposite is seen for the energy they personally consume in their accommodation. Like in Greece, follow-up participants felt less informed on this issue (-4% in mean value). No statistically significant differences were observed in any topic.

In **Bulgaria** follow-up respondents felt less informed about all topics. The changes in mean values are notable for all topics, the biggest one being -40% in the impact energy saving measures have on their energy bills. However, the large difference in mean values, but not necessarily the fact of the decrease itself, is attributed to the very small sample size (see Annex I) rather than a more important change compared to the other countries.

**Table 7 Mean values and standard deviations of perceived level of information on personal energy consumption -total sample and per country**

| **The energy you personally consume in your accommodation** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Baseline** | | **Follow-up** | | **Change in mean value** | **% change in mean value** | **p value** |
| | **mean** | **SD** | **mean** | **SD** | | | |
| **Bulgaria** | 3.2 | 1.48 | 2.16 | 1.04 | -1.04 | -33% | 0.05 |
| **Cyprus** | 3.2 | 1.13 | 3.23 | 1.11 | 0.03 | 1% | 0.57 |
| **Greece** | 3.23 | 0.93 | 3.13 | 1.03 | -0.10 | -3% | 0.18 |
| **Ireland** | 2.72 | 1.28 | 2.90 | 1.15 | 0.18 | 7% | 0.07 |
| **Lithuania** | 3.29 | 1.07 | 3.42 | 1.02 | 0.13 | 4% | 0.09 |
| **Romania** | 3.22 | 1.22 | 3.09 | 1.21 | -0.13 | -4% | 0.43 |
| **UK** | 3.07 | 1.13 | 2.95 | 1.16 | -0.12 | **-4%*** | 0.04 |
| **Total** | 3.14 | 1.12 | 3.07 | 1.13 | -0.07 | **-2%*** | 0.02 |

*: statistically significant difference

**Table 8 Mean values and standard deviations of perceived level of information on personal actions to save energy - Total sample and per country**

| **What you can personally do to save energy in your accommodation** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Baseline** | | **Follow-up** | | **Change in mean value** | **% change in mean value** | **p value** |
| | **mean** | **SD** | **mean** | **SD** | | | |

| What you can personally do to save energy in your accommodation | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.8 | 1.3 | 2.91 | 1.33 | -0.89 | -23% | 0.16 |
| **Cyprus** | 3.73 | 1.02 | 3.68 | 1.03 | -0.05 | -1% | 0.40 |
| **Greece** | 3.36 | 0.93 | 3.45 | 1.03 | 0.09 | 3% | 0.18 |
| **Ireland** | 3.27 | 1.17 | 3.41 | 1.03 | 0.14 | 4% | 0.12 |
| **Lithuania** | 3.43 | 0.99 | 3.47 | 0.98 | 0.04 | 1% | 0.56 |
| **Romania** | 3.45 | 1.1 | 3.58 | 1.10 | 0.13 | 4% | 0.41 |
| **UK** | 3.81 | 0.89 | 3.75 | 0.97 | -0.06 | -2% | 0.21 |
| **Total** | 3.59 | 1 | 3.57 | 1.03 | -0.02 | -1% | 0.51 |

**Table 9 Mean values and standard deviations of perceived level of information on the impact of energy saving measures on energy bills - Total sample and per country**

| The impact your energy saving measures have on your energy bill | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.6 | 0.89 | 2.18 | 1.07 | -1.42 | -40% | 0.01 |
| **Cyprus** | 3.49 | 1.1 | 3.47 | 1.10 | -0.02 | -1% | 0.73 |
| **Greece** | 3.17 | 0.94 | 3.14 | 1.08 | -0.03 | -1% | 0.74 |
| **Ireland** | 2.97 | 1.24 | 3.00 | 1.19 | 0.03 | 1% | 0.73 |
| **Lithuania** | 3.02 | 1.11 | 3.08 | 1.11 | 0.06 | 2% | 0.46 |
| **Romania** | 3.71 | 1.05 | 3.58 | 1.09 | -0.13 | -3% | 0.38 |
| **UK** | 3.32 | 1.14 | 3.19 | 1.17 | -0.13 | **-4%*** | 0.03 |
| **Total** | 3.26 | 1.12 | 3.18 | 1.16 | -0.08 | **-2%*** | 0.01 |

*: statistically significant difference

**Table 10 Mean values and standard deviations of perceived level of information on the impact of energy saving solutions on global warming - Total sample and per country**

| The impact that energy saving solutions can have to help reduce global warming | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4 | 1.22 | 3.29 | 1.18 | -0.71 | -18% | 0.21 |
| **Cyprus** | 3.56 | 1.13 | 3.52 | 1.11 | -0.04 | -1% | 0.55 |
| **Greece** | 3.43 | 0.97 | 3.45 | 1.10 | 0.02 | 1% | 0.73 |
| **Ireland** | 3.28 | 1.29 | 3.42 | 1.19 | 0.14 | 4% | 0.14 |
| **Lithuania** | 3.08 | 1.15 | 3.15 | 1.12 | 0.07 | 2% | 0.38 |
| **Romania** | 3.25 | 1.23 | 3.25 | 1.24 | 0.00 | 0% | 1.00 |
| **UK** | 3.85 | 1.07 | 3.86 | 1.05 | 0.01 | 0% | 0.92 |
| **Total** | 3.5 | 1.15 | 3.53 | 1.14 | 0.03 | 1% | 0.32 |

Table 11 Mean values and standard deviations on perceived level of information on the rights in choosing and changing energy provider - Total sample and per country

| The rights you have in choosing and changing your energy provider | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 2 | 1 | 1.47 | 0.89 | -0.53 | -27% | 0.22 |
| **Cyprus** | 2.32 | 1.14 | 2.34 | 1.10 | 0.02 | 1% | 0.75 |
| **Greece** | 2.47 | 1.04 | 2.60 | 1.13 | 0.13 | 5% | 0.11 |
| **Ireland** | 2.33 | 1.32 | 2.57 | 1.27 | 0.24 | **10%*** | 0.02 |
| **Lithuania** | 2.2 | 1.12 | 2.36 | 1.16 | 0.16 | **7%*** | 0.04 |
| **Romania** | 2.73 | 1.2 | 3.03 | 1.27 | 0.30 | 11% | 0.08 |
| **UK** | 2.86 | 1.23 | 2.77 | 1.25 | -0.09 | -3% | 0.16 |
| **Total** | 2.5 | 1.2 | 2.56 | 1.21 | 0.06 | 2% | 0.08 |

*: statistically significant difference

Table 12 Mean values and standard deviations on perceived level of information on the choices of tariffs with energy provider - Total sample and per country

| The choices of tariffs that you have with your energy provider | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 2.2 | 1.64 | 1.38 | 0.89 | -0.82 | -37% | 0.33 |
| **Cyprus** | 2.31 | 1.11 | 2.38 | 1.11 | 0.07 | 3% | 0.31 |
| **Greece** | 2.3 | 1.02 | 2.44 | 1.15 | 0.14 | 6% | 0.07 |
| **Ireland** | 2.07 | 1.2 | 2.22 | 1.14 | 0.15 | 7% | 0.09 |
| **Lithuania** | 2.51 | 1.21 | 2.67 | 1.18 | 0.16 | 6% | 0.06 |
| **Romania** | 2.57 | 1.22 | 2.62 | 1.23 | 0.05 | 2% | 0.77 |
| **UK** | 2.58 | 1.22 | 2.47 | 1.18 | -0.11 | -4% | 0.07 |
| **Total** | 2.42 | 1.17 | 2.41 | 1.17 | -0.01 | -1% | 0.69 |

Table 13 Mean values and standard deviations on perceived level of information on the impact of cold homes on health and well-being - Total sample and per country

| The impact of cold homes on your health and well-being | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.4 | 0.89 | 2.73 | 1.32 | -0.67 | -20% | 0.28 |
| **Cyprus** | 2.72 | 1.23 | 2.74 | 1.23 | 0.02 | 1% | 0.75 |
| **Greece** | 2.76 | 1.07 | 2.95 | 1.18 | 0.19 | **7%*** | 0.01 |
| **Ireland** | 2.94 | 1.41 | 3.03 | 1.27 | 0.09 | 3% | 0.43 |

| The impact of cold homes on your health and well-being | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Lithuania** | 3 | 1.2 | 2.87 | 1.18 | -0.13 | -4% | 0.12 |
| **Romania** | 3.01 | 1.34 | 3.26 | 1.24 | 0.25 | 8% | 0.17 |
| **UK** | 2.86 | 1.22 | 3.00 | 1.22 | 0.14 | **5%*** | 0.02 |
| **Total** | 2.85 | 1.22 | 2.94 | 1.23 | 0.09 | **3%*** | 0.01 |

*: statistically significant difference

## 3.6 Habits and practices

Respondents were asked to rate the extent in which they undertook a number of energy saving actions on a 1 to 5 scale (1= Never, 5 = Always). The higher the mean value (M) the higher the frequency that the action is performed. A low standard deviation (SD) indicates that the given answers tend to be close to the mean value, while a high standard deviation indicates that the given answers are spread out over a wider range of values. Independent samples t-test was used to determine whether the differences in the mean values recorded between the baseline and follow-up survey are statistically significant. Results for the total sample are illustrated in Figure 5 while results per country and for the total sample are tabulated in Table 14 – Table 23.

The frequency that any action was taken did not change drastically over the academic year (Figure 5). The actions taken more frequently at the end of the academic year were: "Switched off lights and appliances when not in use" (M=4.31, SD =0.89), "Only wash clothes when you have a full load" (M=4.34, SD =0.90) and "Allow food to cool down before putting it to fridge" (M=4.10, SD =1.17). Actions taken less frequently were: "Leave the heating on when you go out for a few hours" (M=1.90 , SD =1.12) ,"Defrost the fridge frequently" (M=2.11, SD=1.04), and "Leave your PC or TV on standby for long periods of time at home" (M=2.60, SD =1.32).

A statistically significant increase is observed in the frequency that the total sample of respondents:

- Only wash clothes when they have a full load, +2% increase from the beginning of the academic year (*t(5031=-2.344, p=0.019*) and
- Leave their PC or TV on standby for long periods of time at home, +3% increase from the beginning of the academic year (*t(5231)=-2.014, p=0.044*).

In addition, the findings of the follow-up survey revealed some practices that respondents from different countries have in common (Table 14-Table 23). According to the follow-up survey, the most frequent action respondents from Bulgaria, Greece, Ireland and the UK undertake, is to wash their clothes only when they have a full load whereas in Cyprus and Lithuania, respondents, switch off lights and appliances when not in use, quite frequently. On the other hand, respondents from Cyprus, Greece, Ireland and Lithuania, rarely leave the heating on when they go out for a few hours.

In **Bulgaria** large changes between the baseline and follow-up survey responses are observed in a number of items. These are mainly attributed to the very small sample size rather than to a notable change in students' behavior. None of the differences was statistically significant.

The actions that the follow-up respondents undertook most often was to wash their clothes only when they have a full load (M=4.19, SD=1.18, -7% decrease from baseline) and allow cooked food to cool down before putting it to fridge (M=4.17, SD=1.03, -5% decrease from baseline).
The actions undertaken less frequently by the follow-up respondents were: leaving a mobile phone charger switched on at the socket when not in use (M=2.58 , SD=0.98 , +29% change from baseline) and defrost the fridge frequently (M=2.61 , SD=1.05 , +9% increase from baseline).

In **Cyprus**, the most frequent actions the follow-up respondents took was to switch off lights and appliances when not in use (M=4.36, SD=0.89, -1% decrease from baseline) and only wash clothes when having a full load (M=4.32, SD=0.93, no change from baseline).

The least frequently undertaken action was to rarely leave the heating on when they go out for a few hours (M=1.54, SD=0.89, no change from baseline). No statistically significant differences were observed in the frequency Cypriot respondents undertook any of the listed energy saving actions during the academic year.

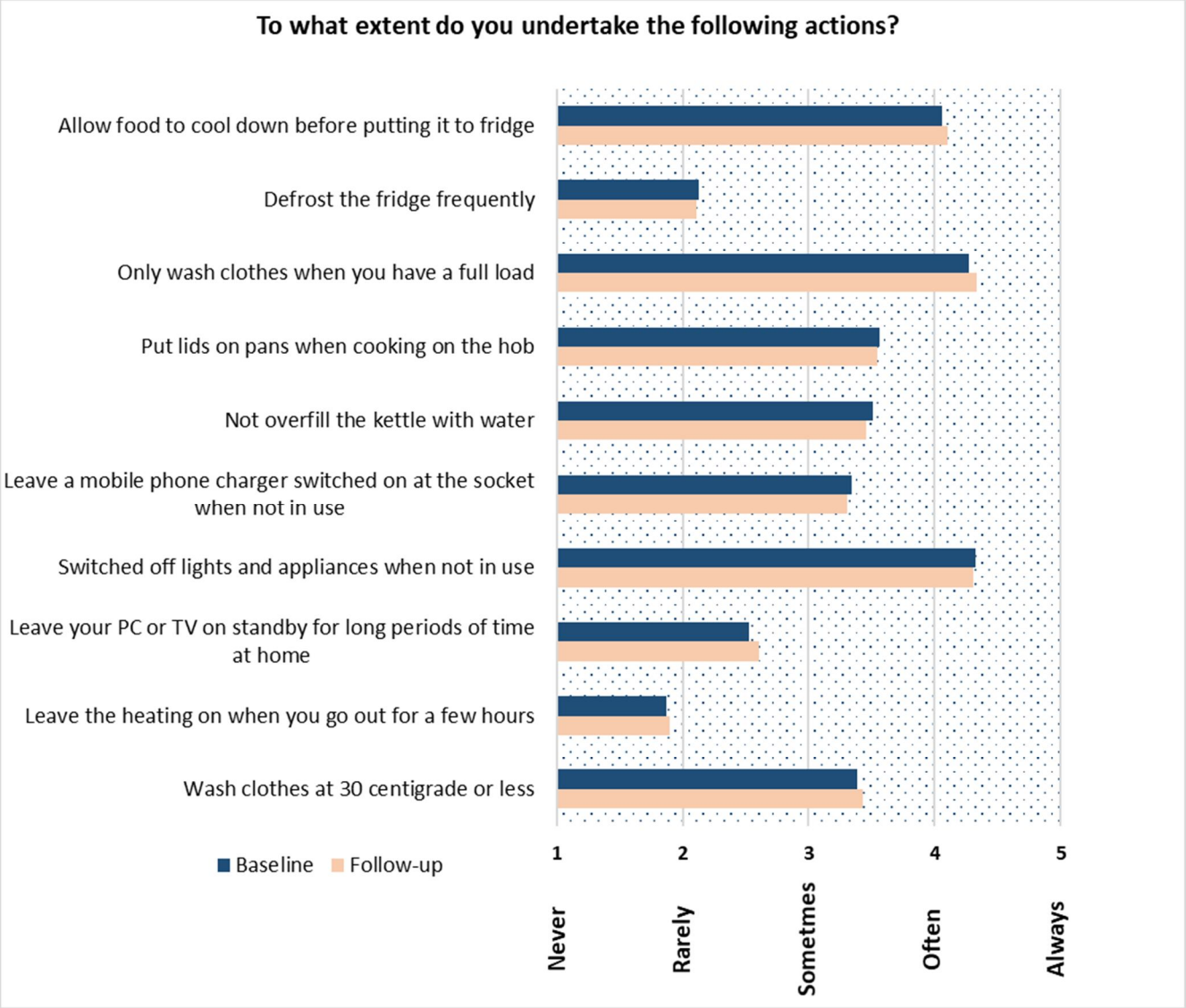


**Figure 5 Mean values of the extent respondents undertake targeted energy saving actions - Total sample**

In **Greece**, the most frequent actions the follow-up respondents took was to wash their clothes only when they had a full load (M=4.19, SD=0.88, +6% increase from baseline) and switch-off lights and appliances when not in use (M=4.11, SD=1.00, no change from baseline). A statistically significant increase occurred in the frequency that Greek respondents wash clothes when they have a full load (*t(754)=-3.503, p=0.0005*).
The least frequently undertaken action was that they rarely leave the heating on when they go out for a few hours (M=1.68, SD=0.99, -5% decrease from baseline).

No statistically significant difference is observed for any of the other targeted energy saving behaviors.

In **Ireland**, the action that was undertaken the most often by the participants was to wash their clothes only when they had a full load (M=4.31, SD=0.91, +4% increase from baseline) and switch-off lights and appliances

when not in use (M=4.28, SD=0.86, +3% increase from baseline). The increase in the frequency of washing clothes only when the load is full is marginally significant (*t(307)=-1.895, p=0.059*).

The least frequently undertaken action was to leave the heating on when they go out for a few hours (M=1.66, SD=0.93, +4% increase from baseline).

In addition, the frequency that the follow-up respondents undertook the following actions noted a statistically significant difference:

- "Wash clothes at 30 centigrade or less", +7% increase from baseline, (*t(309)=-2.215, p=0.027*)
- "Put lids on pans when cooking on the hob", +8% increase from baseline, (*t(788)=-2.427, p=0.015*).
- "Defrost the fridge frequently" , +13% increase from baseline, (*t(754)=-2.695, p=0.007*)

"Leave a mobile phone charger switched on at the socket when not in use", -7% decrease from baseline, (*t(799)=2.168, p=0.03*).

In **Lithuania** the action that was undertaken the most often by respondents was to switch off lights and appliances when not in use (M=4.26, SD=0.93, +1% increase from baseline) and only wash clothes when having a full load (M=4.20, SD=0.93, +1% increase from baseline).

On the other hand, leaving the heating on when they go out for a few hours (M=2.06, SD=1.34, -7% decrease from baseline) and defrosting the fridge regularly (M=2.14, SD=0.86, +4% increase from baseline) were the least frequently undertaken actions in Lithuania.

A statistically significant increase (+4% from baseline survey) is observed only in the frequency that follow-up respondents allowed cooked food to cool down before putting it to fridge (*t(831)=-2.056, p=0.04*).

In **Romania**, the most frequent action the participants took was to allow cooked food to cool down before putting it to fridge (M=4.78, SD=0.71, no change from baseline).

On the contrary, not overfilling the kettle with water was the action Romanian participants undertook least frequently (M=1.74, SD=1.19 , +2% increase from baseline).

The frequency that the follow-up respondents undertook the following actions noted a statistically significant difference:

- Leave the heating on when they go out for a few hours, +16% increase from baseline (*t(831)=-2.056, p=0.04*)
- Wash clothes on 30 centigrade or less, -10% decrease from baseline (*t(194)=-2.092, p=0.04*).

In the **UK** the most frequently applied actions by follow-up respondents was washing their clothes only when they had a full load (M=4.56, SD=0.75, -1% decrease from baseline) and switch of unused lights and appliances (M=4.44, SD=0.76, no change from baseline).

The least frequently undertaken action was defrosting the fridge regularly (M=1.70, SD=0.91, -1% decrease from baseline).

A statistically significant increase is observed in the frequency that respondents from the UK:

- Leave the heating on when they go out for a few hours, +11% increase from baseline (*t(1507)=-3.950, p=0.0001*) and
- Leave their PC or TV on standby for long periods of time at home, +7% increase from baseline (*t(1490)=-2.494, p=0.013*)

**Table 14 Mean values and standard deviations on the extent respondents wash clothes at 30 degrees or less - Total sample and per country**

| **Wash clothes at 30 centigrade or less** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Baseline** | | **Follow-up** | | **Change in mean value** | **% change in mean value** | **p value** |
| | **mean** | **SD** | **mean** | **SD** | | | |
| **Bulgaria** | 3.25 | 2.06 | 3.64 | 0.81 | 0.39 | 12% | 0.73 |

| Wash clothes at 30 centigrade or less | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Cyprus** | 3.33 | 1.13 | 3.31 | 1.13 | -0.02 | -1% | 0.79 |
| **Greece** | 3.36 | 0.97 | 3.23 | 1.13 | -0.13 | -4% | 0.10 |
| **Ireland** | 3.42 | 1.24 | 3.65 | 1.11 | 0.23 | **7%*** | 0.03 |
| **Lithuania** | 3.18 | 1.14 | 3.11 | 1.17 | -0.07 | -2% | 0.44 |
| **Romania** | 3.61 | 1.18 | 3.25 | 1.22 | -0.36 | **-10%*** | 0.04 |
| **UK** | 3.55 | 1.18 | 3.58 | 1.21 | 0.03 | 1% | 0.67 |
| **Total** | 3.39 | 1.14 | 3.43 | 1.17 | 0.04 | 1% | 0.30 |

*: statistically significant difference

**Table 15 Mean values and standard deviations of the extent respondents leave the heating on when they go out for a few hours– Total sample and per country**

| Leave the heating on when you go out for a few hours | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 2.8 | 1.3 | 3.41 | 1.02 | 0.61 | 22% | 0.22 |
| **Cyprus** | 1.54 | 0.94 | 1.54 | 0.89 | 0.00 | 0% | 0.99 |
| **Greece** | 1.77 | 0.86 | 1.68 | 0.99 | -0.09 | -5% | 0.18 |
| **Ireland** | 1.6 | 0.95 | 1.66 | 0.93 | 0.06 | 4% | 0.46 |
| **Lithuania** | 2.22 | 1.37 | 2.06 | 1.34 | -0.16 | -7% | 0.14 |
| **Romania** | 2.59 | 1.28 | 3.01 | 1.39 | 0.42 | **16%*** | 0.03 |
| **UK** | 1.93 | 1.04 | 2.15 | 1.10 | 0.22 | **11%*** | 0.00 |
| **Total** | 1.87 | 1.1 | 1.90 | 1.12 | 0.03 | 1% | 0.36 |

*: statistically significant difference

**Table 16 Mean values and standard deviations of the extent respondents leave their PC or TV on stanby for long periods of time at home- Total sample and per country**

| Leave your PC or TV on stanby for long periods of time at home | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.4 | 1.52 | 3.27 | 1.00 | -0.13 | -4% | 0.80 |
| **Cyprus** | 2.27 | 1.29 | 2.29 | 1.19 | 0.02 | 1% | 0.82 |
| **Greece** | 2.5 | 1.15 | 2.49 | 1.22 | -0.01 | 0% | 0.86 |
| **Ireland** | 2.73 | 1.48 | 2.69 | 1.39 | -0.04 | -1% | 0.71 |
| **Lithuania** | 2.8 | 1.28 | 2.80 | 1.31 | 0.00 | 0% | 1.00 |
| **Romania** | 2.49 | 1.52 | 2.78 | 1.54 | 0.29 | 12% | 0.18 |
| **UK** | 2.5 | 1.33 | 2.67 | 1.34 | 0.17 | **7%*** | 0.01 |
| **Total** | 2.53 | 1.32 | 2.60 | 1.32 | 0.07 | **3%*** | 0.04 |

*: statistically significant difference

Table 17 Mean values and standard deviations of the extent respondents switch off lights and appliances when not in use- Total sample and per country

| Switched off lights and appliances when not in use | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.6 | 0.55 | 3.52 | 1.13 | -1.08 | -23% | 0.04 |
| **Cyprus** | 4.42 | 0.82 | 4.36 | 0.89 | -0.06 | -1% | 0.25 |
| **Greece** | 4.12 | 0.84 | 4.11 | 1.00 | -0.01 | 0% | 0.89 |
| **Ireland** | 4.17 | 0.93 | 4.28 | 0.86 | 0.11 | 3% | 0.11 |
| **Lithuania** | 4.22 | 0.98 | 4.26 | 0.93 | 0.04 | 1% | 0.58 |
| **Romania** | 4.49 | 0.96 | 4.38 | 1.03 | -0.11 | -2% | 0.44 |
| **UK** | 4.43 | 0.77 | 4.44 | 0.76 | 0.01 | 0% | 0.89 |
| **Total** | 4.32 | 0.87 | 4.31 | 0.89 | -0.01 | 0% | 0.49 |

Table 18 Mean values and standard deviations of the extent respondents leave a mobile phone charger switched on at the socket when not in use- Total sample and per country

| Leave a mobile phone charger switched on at the socket when not in use | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 2 | 1.41 | 2.58 | 0.98 | 0.58 | 29% | 0.24 |
| **Cyprus** | 3.23 | 1.5 | 3.20 | 1.53 | -0.03 | -1% | 0.68 |
| **Greece** | 3.49 | 1.32 | 3.36 | 1.44 | -0.13 | -4% | 0.19 |
| **Ireland** | 3.5 | 1.36 | 3.26 | 1.42 | -0.24 | **-7%*** | 0.03 |
| **Lithuania** | 3.08 | 1.54 | 2.96 | 1.51 | -0.12 | -4% | 0.24 |
| **Romania** | 3.66 | 1.44 | 3.92 | 1.38 | 0.26 | 7% | 0.20 |
| **UK** | 3.43 | 1.4 | 3.50 | 1.37 | 0.07 | 2% | 0.33 |
| **Total** | 3.34 | 1.45 | 3.30 | 1.45 | -0.04 | -1% | 0.31 |

*: statistically significant difference

Table 19 Mean values and standard deviations of the extent respondents not overfill the kettle with water- Total sample and per country

| Not overfill the kettle with water | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.33 | 1.15 | 2.93 | 1.07 | -1.40 | -32% | 0.03 |
| **Cyprus** | 3.62 | 1.28 | 3.65 | 1.24 | 0.03 | 1% | 0.61 |
| **Greece** | 3.42 | 1.2 | 3.29 | 1.35 | -0.13 | -4% | 0.20 |
| **Ireland** | 3.22 | 1.36 | 3.28 | 1.23 | 0.06 | 2% | 0.58 |
| **Lithuania** | 3.73 | 1.1 | 3.67 | 1.12 | -0.06 | -2% | 0.43 |
| **Romania** | 1.71 | 1.1 | 1.74 | 1.19 | 0.03 | 2% | 0.89 |
| **UK** | 3.57 | 1.2 | 3.62 | 1.18 | 0.05 | 1% | 0.44 |
| **Total** | 3.51 | 1.25 | 3.46 | 1.26 | -0.05 | -1% | 0.14 |

Table 20 Mean values and standard deviations of the extent respondents put lids on pans when cooking on the hob- Total sample and per country

| Put lids on pans when cooking on the hob | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.8 | 1.3 | 2.80 | 1.27 | -1.00 | -26% | 0.11 |
| **Cyprus** | 3.58 | 1.09 | 3.65 | 1.09 | 0.07 | 2% | 0.34 |
| **Greece** | 3.75 | 0.95 | 3.85 | 1.00 | 0.10 | 3% | 0.16 |
| **Ireland** | 2.96 | 1.35 | 3.21 | 1.26 | 0.25 | **8%*** | 0.02 |
| **Lithuania** | 3.9 | 1.01 | 4.02 | 1.02 | 0.12 | 3% | 0.10 |
| **Romania** | 3.39 | 1.28 | 3.65 | 1.24 | 0.26 | 8% | 0.16 |
| **UK** | 3.4 | 1.19 | 3.38 | 1.22 | -0.02 | 0% | 0.75 |
| **Total** | 3.56 | 1.15 | 3.54 | 1.19 | -0.02 | -1% | 0.63 |

*: statistically significant difference

Table 21 Mean values and standard deviations of the extent respondents only wash clothes when they have a full load- Total sample and per country

| Only wash clothes when you have a full load | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.5 | 1 | 4.19 | 1.18 | -0.31 | -7% | 0.61 |
| **Cyprus** | 4.33 | 0.84 | 4.32 | 0.93 | -0.01 | 0% | 0.89 |
| **Greece** | 3.96 | 0.9 | 4.19 | 0.88 | 0.23 | **6%*** | 0.00 |
| **Ireland** | 4.15 | 1.05 | 4.31 | 0.91 | 0.16 | 4% | 0.06 |
| **Lithuania** | 4.15 | 1.03 | 4.20 | 0.93 | 0.05 | 1% | 0.44 |
| **Romania** | 3.65 | 1.35 | 3.73 | 1.21 | 0.08 | 2% | 0.65 |
| **UK** | 4.6 | 0.71 | 4.56 | 0.75 | -0.04 | -1% | 0.39 |
| **Total** | 4.27 | 0.94 | 4.34 | 0.90 | 0.07 | **2%*** | 0.02 |

*: statistically significant difference

Table 22 Mean values and standard deviations of the extent respondents defrost the fridge frequently- Total sample and per country

| Defrost the fridge frequently | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 2.4 | 0.89 | 2.61 | 1.05 | 0.21 | 9% | 0.67 |
| **Cyprus** | 2.58 | 1.17 | 2.45 | 1.10 | -0.13 | -5% | 0.09 |
| **Greece** | 2.46 | 1 | 2.42 | 1.01 | -0.04 | -2% | 0.58 |
| **Ireland** | 1.78 | 0.96 | 2.01 | 1.03 | 0.23 | **13%*** | 0.01 |
| **Lithuania** | 2.05 | 0.85 | 2.14 | 0.86 | 0.09 | 4% | 0.15 |
| **Romania** | 2.64 | 1.29 | 2.73 | 1.08 | 0.09 | 3% | 0.60 |
| **UK** | 1.73 | 0.88 | 1.70 | 0.91 | -0.03 | -1% | 0.57 |

| Defrost the fridge frequently | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Total** | 2.13 | 1.05 | 2.11 | 1.04 | -0.02 | -1% | 0.45 |

*: statistically significant difference

**Table 23 Mean values and standard deviations of the extent respondents allow food to cool down before putting it to fridge- Total sample and per country**

| Allow cooked food to cool down before putting it to fridge | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.4 | 0.89 | 4.17 | 1.03 | -0.23 | -5% | 0.63 |
| **Cyprus** | 4.02 | 1.28 | 4.00 | 1.25 | -0.02 | -1% | 0.79 |
| **Greece** | 3.75 | 1.14 | 3.68 | 1.35 | -0.07 | -2% | 0.49 |
| **Ireland** | 4.12 | 1.2 | 4.19 | 1.09 | 0.07 | 2% | 0.48 |
| **Lithuania** | 4.05 | 1.27 | 4.23 | 1.17 | 0.18 | **4%*** | 0.04 |
| **Romania** | 4.77 | 0.77 | 4.78 | 0.71 | 0.01 | 0% | 0.90 |
| **UK** | 4.12 | 1.07 | 4.18 | 1.04 | 0.06 | 1% | 0.26 |
| **Total** | 4.06 | 1.18 | 4.10 | 1.17 | 0.04 | 1% | 0.16 |

*: statistically significant difference

## 3.7 Actions taken to reduce the energy costs

Respondents were asked which of the mentioned targeted actions, if any, were taken whilst in their current accommodation in order to reduce the cost of their energy bills. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. The results are presented in Table 24 and illustrated in Figure 6.

The most popular responses in both surveys (~50% of respondents) are "Took actions to reduce my energy usage" and "Worn outdoor wear (e.g. hat/scarf/coat/gloves) or more clothes to keep the heating down in your home" (Figure 6). A small increase (+1%) is observed in the proportion of respondents taking action to reduce their energy usage at the end of the academic year compared to the beginning. A slightly bigger increase is noted for those wearing outdoor wear or more layers to keep the heating down (+2.5%). The decrease (-3%) in the share of respondents who approached their landlord to buy more energy efficient appliances or bought some themselves (z=3.085, p=0.002) is statistically significant.

The biggest share of follow-up respondents in **Bulgaria** (80%) **Cyprus** (45%) **Lithuania** (31%) and **Romania** (36%) reduced their energy costs by reducing their energy usage (Table 22). This action was applied frequently by the respondents of the baseline survey as well; Bulgaria (75%), Cyprus (49%), Lithuania (34%) and Romania (46%).

In Cyprus, wearing extra clothes to keep the heating down was another popular response (44%) which in fact showed a statistically significant increase (+7%) compared to the baseline (z=-2.391, p=0.017). On the contrary, a statistically significant decrease of -7% is observed in the share of those surveyed who approached their landlord to buy more energy efficient appliances, or bought some themselves (z=2.713, p=0.007). Differences might be attributed to that student participants preferred to take actions that they could do by themselves instead of asking their landlords to do things for them.

In Lithuania the second most popular action in the follow-up survey (24% of respondents) for reducing energy costs was wearing outdoor wear or extra clothes to keep the heating down in their home. Also, a statistically

significant increase of +2% is observed in the share of respondents who switched supplier or tariff in the last six months (z=-2.007, p=0.045). On the contrary, a high share of respondents in both surveys (40% in baseline and 42% in the follow-up) stated that they have taken none of the listed actions.

In Romania the second most popular action in the follow-up survey (13% of respondents) for reducing energy costs was that they approached their landlord to improve the insulation or heating system. A statistically significant increase of +24% is observed in the share of respondents (50% of follow-up respondents) who did not undertake any of the targeted actions to reduce their energy costs (z=-3.660, p=0.0001).

In Bulgaria the second most popular action in the follow-up survey (43% of respondents) was wearing outdoor wear or more clothes to keep the heating down.

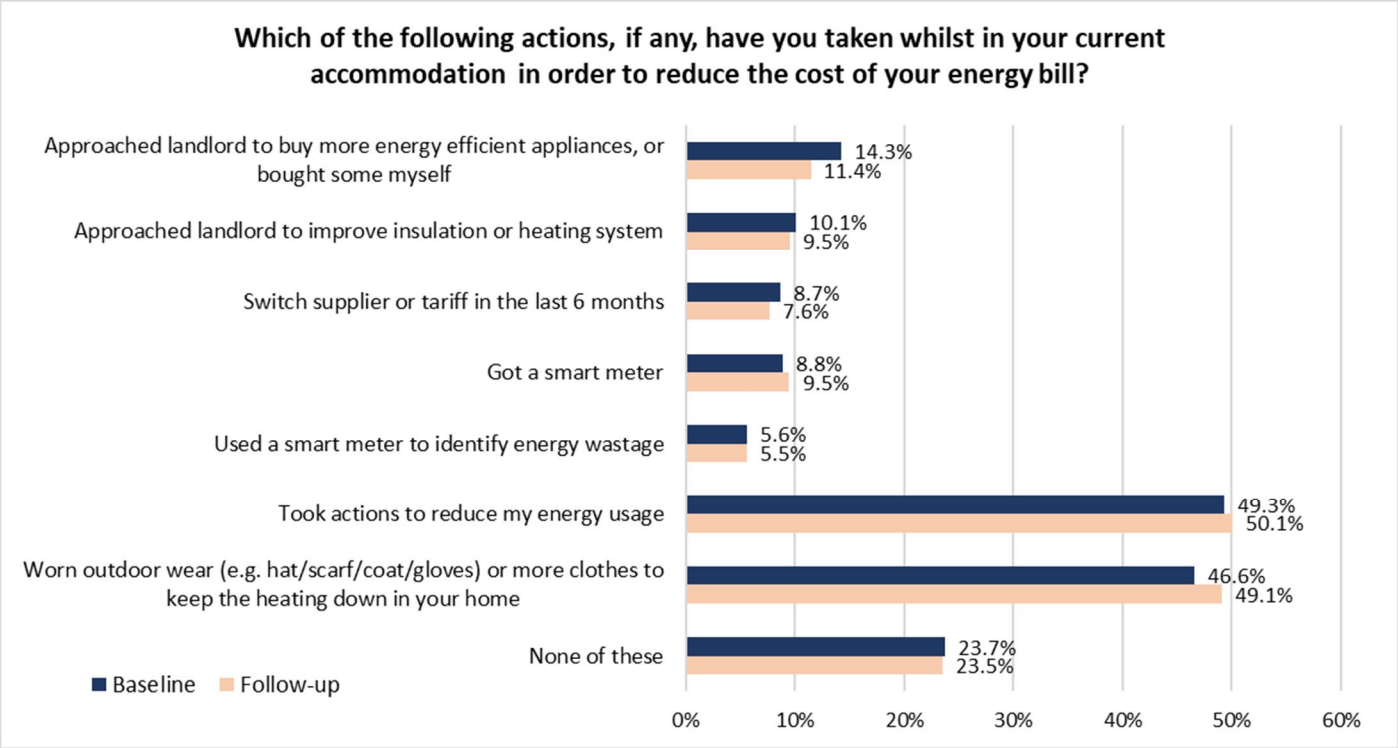


**Figure 6 Actions taken by respondents to reduce their energy costs whilst in their current accommodation – Total sample**

In **Greece** (44%), **Ireland** (54%), and the **UK** (69%) the most popular action in the follow-up survey was wearing outdoor wear or more clothes to keep warm in their home. This action was also the most frequently occurring response at the beginning of the academic year in all these three countries; Greece (54%), Ireland (61%), and the UK (69%).

In Greece, at the end of the academic year, statistically significant differences are observed for the following actions:

- Worn outdoor wear or more clothes to keep warm in their home (44% of follow-up respondents). -10% decrease from baseline (z=2.831, p=0.005).
- Approached landlord to buy more energy efficient appliances, or bought some themselves (19% of follow-up respondents). +5% increase from baseline (z=-2.072, p=0.038)
- Approached landlord to improve insulation or heating system (18% of follow-up respondents). +7% increase from baseline (z=-2.625, p=0.009)
- Switched supplier or tariff in the last 6 months (12% of follow-up respondents). +7% increase from baseline (z=-3.340, p=0.001)

In Ireland the second most applied action for reducing energy costs at the end of the academic year (50% of respondents) was the reduction of energy usage. Another 10% approached their landlord to buy more energy

efficient appliances or bought some themselves and to improve insulation or heating system. No statistically significant differences were observed between the two surveys in Ireland.

In the UK, as in Ireland, the second most popular response was the reduction of energy usage (65% of follow-up respondents). By the end of the academic year, a marginally statistically significant decrease of -3% is observed in the proportion of respondents (6% of follow-up respondents) who approached their landlord to buy more energy efficient appliances or bought some themselves ($z=1.984$, $p=0.047$). In addition, a statistically significant decrease of -9% is observed in the share of those surveyed (12% of follow-up respondents) who switched supplier or tariff in the last six months ($z=4.626$, $p<0.0001$). These differences might be attributed to the fact that the actions in question are normally taken in the beginning of the academic year when students first move into their accommodation. Nonetheless the UK, along with Greece had the highest proportion of respondents (12%) switching suppliers closer to the end of the academic year.

**Table 24 Actions taken by respondents to reduce their energy costs whilst in their current accommodation- Total sample and per country**

| **Actions taken to reduce energy costs** | | **Bulgaria** | **Cyprus** | **Greece** | **Ireland** | **Lithuania** | **Romania** | **UK** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| Approached landlord to buy more energy efficient appliances, or bought some myself. | **Follow-up** | 4.5% | 16.3% | 18.7% | 10.4% | 11.6% | 10.3% | 5.6% | 11.4% |
| | **Baseline** | 25.0% | 22.8% | 13.3% | 9.0% | 16.1% | 18.3% | 8.2% | 14.3% |
| | **difference from baseline** | -20.5% | **-6.5%*** | **5.4%*** | 1.4% | -4.5% | -8.0% | **-2.6%*** | **-2.9%*** |
| Approached landlord to improve insulation or heating system. | **Follow-up** | 0.0% | 9.6% | 18.4% | 10.6% | 5.1% | 13.4% | 6.0% | 9.5% |
| | **Baseline** | 50.0% | 11.7% | 11.7% | 14.8% | 8.4% | 20.0% | 6.3% | 10.1% |
| | **difference from baseline** | -50.0% | -2.1% | **6.7%*** | -4.2% | -3.3% | -6.6% | -0.3% | -0.6% |
| Switched supplier or tariff in the last 6 months. | **Follow-up** | 0.0% | 1.7% | 11.7% | 8.0% | 4.2% | 2.1% | 12.0% | 7.6% |
| | **Baseline** | 25.0% | 1.8% | 5.1% | 8.6% | 1.8% | 3.5% | 20.7% | 8.7% |
| | **difference from baseline** | -25.0% | -0.1% | **6.6%*** | -0.6% | **2.4%*** | -1.4% | **-8.7%*** | -1.1% |
| Got a smart meter. | **Follow-up** | 0.0% | 5.4% | 4.0% | 7.7% | 10.7% | 7.2% | 16.7% | 9.5% |
| | **Baseline** | 25.0% | 3.1% | 2.0% | 6.7% | 10.4% | 5.2% | 16.6% | 8.8% |
| | **difference from baseline** | -25.0% | 2.3% | 2.0% | 1.0% | 0.3% | 2.0% | 0.1% | 0.7% |
| Used a smart meter to identify energy wastage. | **Follow-up** | 0.0% | 3.7% | 2.0% | 6.6% | 4.8% | 9.3% | 8.0% | 5.5% |
| | **Baseline** | 25.0% | 3.2% | 1.3% | 6.2% | 4.5% | 10.4% | 9.3% | 5.6% |
| | **difference from baseline** | -25.0% | 0.5% | 0.7% | 0.4% | 0.3% | -1.1% | -1.3% | -0.1% |
| Took actions to reduce my energy usage. | **Follow-up** | 79.5% | 45.4% | 43.3% | 50.1% | 31.0% | 36.1% | 65.0% | 50.1% |
| | **Baseline** | 75.0% | 48.5% | 45.4% | 46.2% | 34.3% | 46.1% | 62.9% | 49.3% |
| | **difference from baseline** | 4.5% | -3.1% | -2.1% | 3.9% | -3.3% | -10.0% | 2.1% | 0.8% |
| Worn outdoor wear (e.g. | **Follow-up** | 43.2% | 43.5% | 43.8% | 53.6% | 23.6% | 7.2% | 68.7% | 49.1% |

| Actions taken to reduce energy costs | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| hat/scarf/coat/gloves) or more clothes to keep warm in your home. | **Baseline** | 75.0% | 36.4% | 53.8% | 60.5% | 21.2% | 7.8% | 68.6% | 46.6% |
| | **difference from baseline** | -31.8% | **7.1%*** | **-10.0%** | -6.9% | 2.4% | -0.6% | 0.1% | 2.5% |
| None of these. | **Follow-up** | 20.5% | 28.1% | 19.9% | 22.6% | 42.4% | 49.5% | 11.8% | 23.5% |
| | **Baseline** | 25.0% | 28.4% | 22.4% | 19.5% | 40.6% | 25.2% | 11.1% | 23.7% |
| | **difference from baseline** | -4.5% | -0.3% | -2.5% | 3.1% | 1.8% | **24.3%*** | 0.7% | -0.2% |

*: statistically significant difference

## 3.8 Feelings about saving energy

Respondents were asked to describe their feelings about saving energy from a predefined list of words. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. The results for the total sample and for each country are presented in Table 25 and illustrated for the total sample in Figure 7.

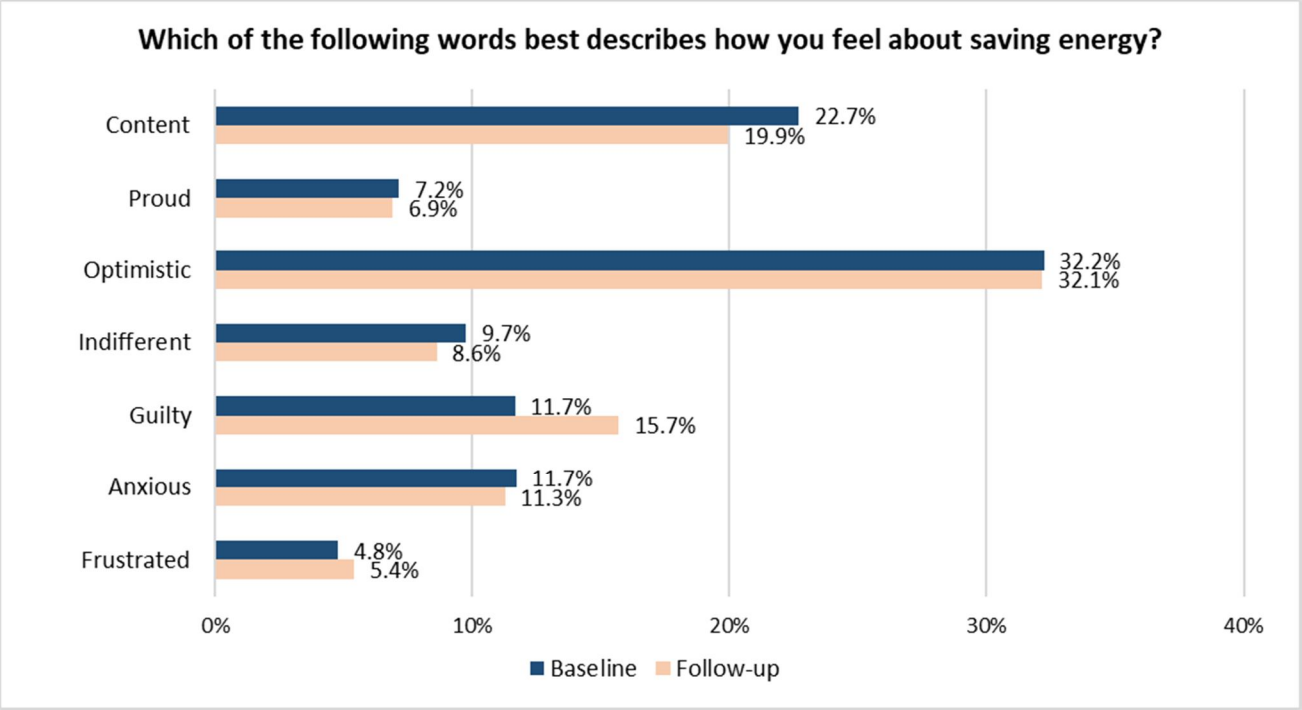


Figure 7 Feelings about saving energy - Total sample

In both surveys, the highest share of respondents felt optimistic about energy saving; this share (32%) remained unchanged in the two surveys. The second most popular answer in both surveys was the feeling of contentment (baseline 23%; follow-up: 20%) suggesting that overall students have positive feelings towards saving energy.

In the follow-up survey, 59% of the total sample selected words with positive meaning (Content to Optimistic) while 32% selected words with a negative meaning (Guilty to Frustrated). Moreover, at the end of the academic year less participants (-1%) stated that they felt indifferent about saving energy. On the other hand, in the

baseline survey, 62% of the total sample had positive feelings, 28% had negative feelings and 10% felt indifferent about saving energy.

By the end of the academic year, a statistically significant increase of +4% is observed in the share of respondents who felt guilty about saving energy (z=-4.173, p<0.0001). In addition, a statistically significant decrease of -3% is observed in the share of respondents who felt content about saving energy (z=2.404, p=0.016).

At the end of the academic year, 69% of those surveyed in Cyprus, 60% of those questioned in Lithuania, 51% of the Irish respondents, 53% of the participants from the UK as well as 65% and 77% of those questioned in Greece and in Romania respectively, described their feelings about saving energy in a positive manner [Optimistic, Proud, Content].

Furthermore, in Cyprus, Greece and Ireland (32% respectively), Lithuania (41%) Romania (46%) and the UK (27%) the biggest share of follow-up respondents felt optimistic about saving energy. The most popular response describing respondents' feelings at the end of the academic year, in Bulgaria (30%) was contentment. On the other hand, the word "Proud" was the least selected in Bulgaria (5%), Ireland (8%) and Lithuania (2%) while In Cyprus (2%), Greece (3%), Romania (1%) and the UK (8%) "Frustrated" was the least selected option.

In **Bulgaria** follow-up participants mostly felt content (30%) and indifferent (25%) about saving energy.

In **Cyprus** and **Greece** follow-up respondents mostly felt optimistic (32% in both) and content (34% and 28%, respectively). In addition, in Greece a marginal statistically significant decrease of -3% is observed in the share of respondents who feel proud about saving energy (z=1.976, p=0.048).

Follow-up respondents from **Ireland** mostly felt optimistic (32%) and guilty (22%). Also, a statistically significant decrease of-5% is observed in the share of respondents who feel indifferent about saving energy by the end of the academic year (z=2.090, p=0.037).

**Lithuanian** follow-up respondents felt mostly optimistic (41%) and anxious (20%) about saving energy while in **Romania** they mostly felt optimistic (46%) and content (19%).

In the **UK** the prevailing feeling in the follow-up survey was optimism (27%) but a statistically significant increase of +5% was also observed in the proportion of participants who felt guilty about saving energy (z=-2.692, p=0.004)

**Table 25 Feelings about saving energy - Total sample and per country**

| Feelings about saving energy | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Frustrated | **Follow-up** | 0.0% | 2.4% | 3.0% | 9.4% | 2.7% | 1.1% | 7.9% | 5.4% |
| | **Baseline** | 0.0% | 1.3% | 2.4% | 12.0% | 2.3% | 0.0% | 9.3% | 4.8% |
| | **difference from baseline** | 0.0% | 1.1% | 0.6% | -2.6% | 0.4% | 1.1% | -1.4% | 0.6% |
| Anxious | **Follow-up** | 11.4% | 10.7% | 7.8% | 9.4% | 19.6% | 0.0% | 12.7% | 11.3% |
| | **Baseline** | 0.0% | 9.5% | 9.4% | 11.4% | 20.0% | 0.0% | 11.0% | 11.7% |
| | **difference from baseline** | 11.4% | 1.2% | -1.6% | -2.0% | -0.4% | 0.0% | 1.7% | -0.4% |
| Guilty | **Follow-up** | 11.4% | 12.0% | 13.8% | 22.1% | 10.3% | 8.4% | 18.2% | 15.7% |
| | **Baseline** | 0.0% | 13.4% | 10.2% | 16.8% | 7.0% | 11.20% | 13.1% | 11.7% |

| Feelings about saving energy | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| | **difference from baseline** | 11.4% | -1.4% | 3.6% | 5.3% | 3.3% | -2.8% | **5.1%*** | **4.0%*** |
| Optimistic | **Follow-up** | 18.2% | 32.3% | 32.3% | 31.9% | 41.4% | 46.3% | 27.1% | 32.1% |
| | **Baseline** | 60.0% | 28.5% | 30.6% | 29.3% | 42.6% | 44.8% | 27.5% | 32.2% |
| | **difference from baseline** | -41.8% | 3.8% | 1.7% | 2.6% | -1.2% | 1.5% | -0.4% | -0.1% |
| Proud | **Follow-up** | 4.5% | 8.4% | 4.3% | 7.8% | 1.8% | 11.6% | 8.4% | 6.9% |
| | **Baseline** | 20.0% | 8.2% | 7.6% | 4.3% | 2.7% | 7.8% | 9.7% | 7.2% |
| | **difference from baseline** | -15.5% | 0.2% | **-3.3%*** | 3.5% | -0.9% | 3.8% | -1.3% | -0.3% |
| Content | **Follow-up** | 29.5% | 28.7% | 28.1% | 11.1% | 16.6% | 18.9% | 17.0% | 19.9% |
| | **Baseline** | 20.0% | 33.7% | 25.7% | 12.5% | 17.4% | 25.0% | 18.8% | 22.7% |
| | **difference from baseline** | 9.5% | -5.0% | 2.4% | -1.4% | -0.8% | -6.1% | -1.8% | **-2.8%*** |
| Indifferent | **Follow-up** | 25.0% | 5.4% | 10.8% | 8.3% | 7.6% | 13.7% | 8.8% | 8.6% |
| | **Baseline** | 0.0% | 5.4% | 14.1% | 13.6% | 8.1% | 11.2% | 10.6% | 9.7% |
| | **difference from baseline** | 25.0% | 0.0% | -3.3% | **-5.3%*** | -0.5% | 2.5% | -1.8% | -1.1% |

*: statistically significant difference

## 3.9 Behavioral antecedents

Respondents were asked about the level of agreement, if at all, with given statements about energy related issues. Results for the total sample and for each country are presented in

Table 26 – Table 34 and illustrated in Figure 8 for the total number of respondents. Results are on a 1 to 5 scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree). Mean values (M) over 3.5 indicate agreement with the statement. A low standard deviation (SD) indicates that the given answers tend to be close to the mean value, while a high standard deviation indicates that the given answers are spread out over a wider range of values. Independent samples t-test was used to determine whether the differences in the mean values recorded between the baseline and follow-up survey are statistically significant.

By the end of the academic year, the total sample of respondents agreed the most with the statement "Everyone including myself is responsible for climate change" (M=4.30, SD =0.84). In contrast, the total sample of those surveyed disagreed the most with the statement "Saving energy is too much of a hassle" (M=2.16, SD=0.88).

Statistically significant differences between the baseline and follow-up survey findings were found in the following items:

- "I feel morally obliged to save energy regardless of what others do". +1% increase in mean value in follow-up (*t(5022)=-1.992, p=0.046*)
- "Everyone including myself is responsible for climate change". +1% increase in mean value in follow-up (*t(5009)=-2.447, p=0.014*).

- "I feel in complete control over how much energy I use". -3% decrease in mean value in follow-up (*t(5106)=3.826, p<0.001*).

Interestingly, in all countries, respondents in both surveys agreed (mean value close to 4) with three out of the nine statements. They agreed on a) energy conservation contributes to a reduction of climate change impacts, b) everyone including their self is responsible for climate change, and c) they feel morally obliged to save energy, regardless of what others do. Furthermore, in all countries respondents disagreed more rather than agreed (mean value close to 2) that "saving energy is too much of a hassle".

In **Bulgaria**, follow-up respondents agreed that "everyone including myself is responsible for climate change" (M=4.27 , SD=1.00) and that "energy conservation contributes to a reduction of climate change impacts**"** (M=4.02 , SD=1.34). On the other hand they do not feel in complete control over how much energy they use (M=2.50 , SD=1.30).

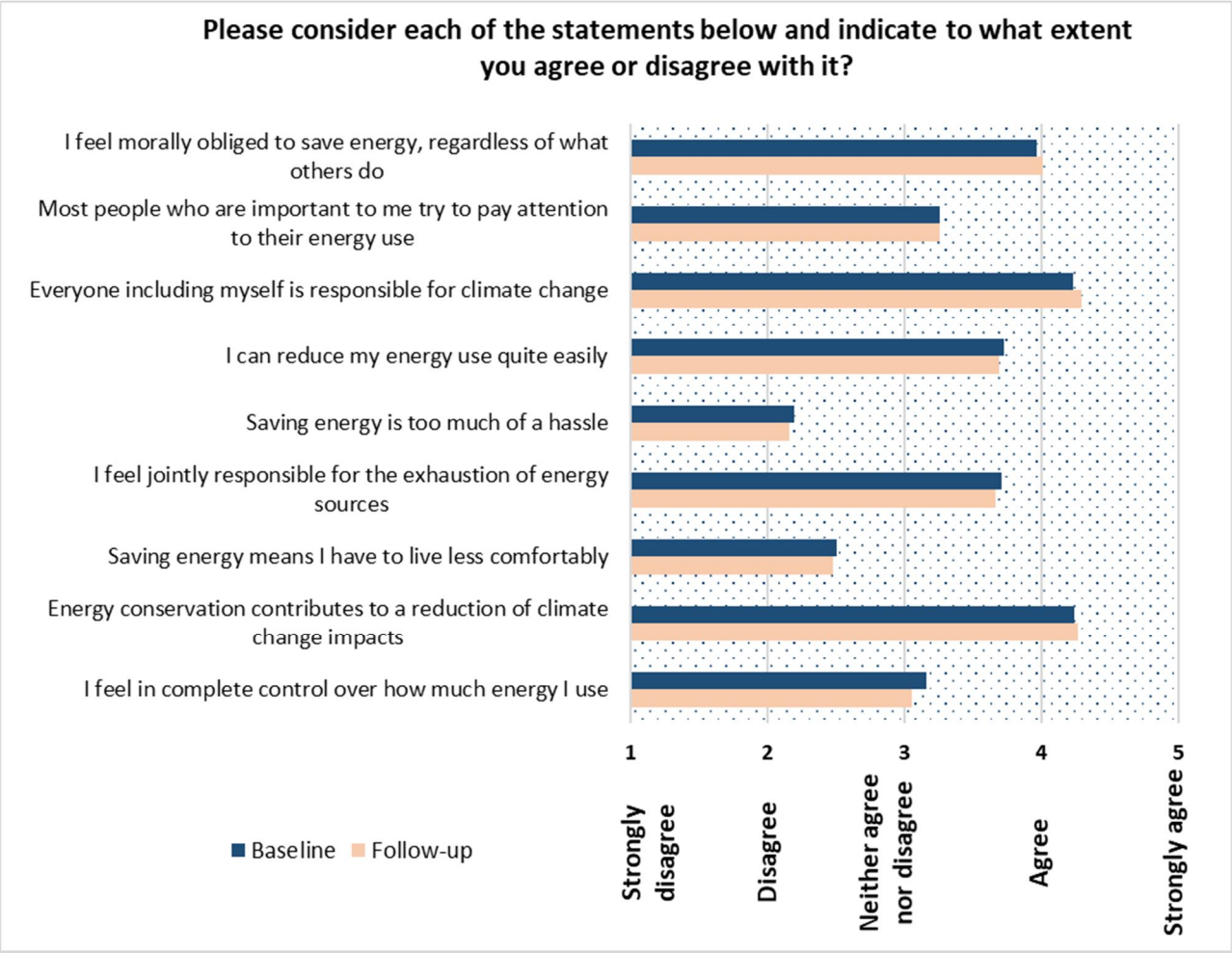


**Figure 8 Behavioral antecedents - Total sample**

Respondents from **Cyprus** agreed that "energy conservation contributes to a reduction of climate change impacts" (M=4.31 , SD=0.73) and that "everyone including myself is responsible for climate change" (M=4.27 , SD=1.00). On the other hand, they disagreed the most with "Saving energy is too much of a hassle" (M=2.04 , SD=0.83) and "Saving energy means I have to live less comfortably" (M=2.18 , SD=0.90).
Statistically significant differences are observed in the following statements:

- "Energy conservation contributes to a reduction of climate change impacts". -2% in mean value in follow-up (*t(1070)=2.366, p=0.018*)

- "I feel morally obliged to save energy regardless of what others do". -4% in mean value in follow-up (*t(1071)=3.288, p=0.001*)
- "Most people who are important to them try to pay attention to their energy use". -3% in mean value in follow-up (*t(1070)=2.172, p=0.03*)
- "Everyone including myself is responsible for climate change". -3% in mean value in follow-up (*t(1062)=2.224, p=0.026*)
- "Saving energy means i have to live less comfortably". +7% in mean value in follow-up (*t(1072)=-2.554, p=0.011*).

In **Greece** follow-up respondents agreed the most that "energy conservation contributes to a reduction of climate change impacts" (M=4.16 , SD=0.72) and that "everyone including myself is responsible for climate change" (M=4.07 , SD=0.85). On the other hand they disagreed that "saving energy is too much of a hassle" (M=2.10 , SD=0.74) and that "saving energy means I have to live less comfortably" (M=2.25 , SD=0.80). A statistically significant decrease of -7% is observed in the level that participants feel in complete control over how much energy they use in the end of the academic year (*t(783)=3.473, p<0.001*).

In **Ireland**, by the end of the academic year, respondents mostly agreed that "everyone including myself is responsible for climate change" (M=4.42 , SD=0.80), that "energy conservation contributes to a reduction of climate change impacts" (M=4.27 , SD=0.74) and that "I feel morally obliged to save energy, regardless of what others do" (M=4.08 , SD=0.81) and "saving energy means I have to live less comfortably" (M=4.27 , SD=0.74). Statistically significant differences are observed in the level of agreement with the following statements:

- "Energy conservation contributes to a reduction of climate change impacts". +4% in mean value in follow-up (*t(273)=-2.063, p=0.04*)
- "I feel jointly responsible for the exhaustion of energy sources". +5% in mean value in follow-up (*t(729)=-2.099, p=0.036*)
- "I feel morally obliged to save energy regardless of what others do". +5% in mean value in follow-up (*t(278)=-2.466, p=0.014*).

At the end of the academic year, participants from **Lithuania** agreed the most with "I feel jointly responsible for the exhaustion of energy sources" (M=4.33 , SD=0.75), "everyone including myself is responsible for climate change" (M=4.15 , SD=0.90) and "energy conservation contributes to a reduction of climate change impacts" (M=4.17 , SD=0.78). The statement "saving energy is too much of a hassle" has the lowest level of agreement (M=2.47 , SD=0.89). No statistically significant differences are recorded.

Follow-up respondents from **Romania** agreed the most with "everyone including myself is responsible for climate change" (M=4.40 , SD=0.83 ), "I can reduce my energy use quite easily" (M=4.05 , SD=0.72). The latter had a statistically significant increase of +7% (*t(203)=-2.478, p=0.014*). In contrast, they disagreed with the statement "Saving energy is too much of a hassle" (M=2.16 , SD=0.91). No other statistically significant differences were found.

In the **UK**, follow-up respondents mostly agreed with "everyone including myself is responsible for climate change" (M=4.44 , SD=0.77), "energy conservation contributes to a reduction of climate change impacts" (M=4.35 , SD=0.68) and with "I feel morally obliged to save energy regardless of what others do" (M=4.19 , SD=0.78). Like in most of the countries, respondents from the UK disagreed the most that saving energy is too much of a hassle (M=2.13 , SD=0.87).

Statistically significant differences were observed in the following statements:

- "Everyone including myself is responsible for climate change". +0.11 in mean value in follow-up (*t(1428)=-2.433, p=0.015*)
- "I feel morally obliged to save energy regardless of what others do". +2% in mean value in follow-up (*t(1451)=-2.164, p=0.031*)
- "I feel in complete control over how much energy I use". -3 in mean value in follow-up (*t(1466)=2.045, p=0.041*)
- "Saving energy means they have to live less comfortably". -5% in mean value in follow-up (*t(1468)=2.775, p=0.006*).

Table 26 Mean values and standard deviations about "I feel in complete control over how much energy I use" - Total sample and per country

| I feel in complete control over how much energy I use | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.40 | 0.89 | 2.50 | 1.30 | -1.90 | -43% | 0.003 |
| **Cyprus** | 3.09 | 0.94 | 3.10 | 0.89 | 0.01 | 0% | 0.83 |
| **Greece** | 3.25 | 0.82 | 3.04 | 0.88 | -0.21 | **-7%*** | 0.001 |
| **Ireland** | 2.97 | 1.05 | 2.91 | 1.01 | -0.06 | -2% | 0.46 |
| **Lithuania** | 3.26 | 0.87 | 3.35 | 0.86 | 0.09 | 3% | 0.16 |
| **Romania** | 3.39 | 0.89 | 3.53 | 0.92 | 0.14 | 4% | 0.26 |
| **UK** | 3.09 | 0.96 | 2.99 | 0.99 | -0.10 | **-3%*** | 0.04 |
| **Total** | 3.16 | 0.93 | 3.06 | 0.96 | -0.10 | **-3%*** | 0.0001 |

*: statistically significant difference

Table 27 Mean values and standard deviations about "Energy conservation contributes to a reduction of climate change impacts" - Total sample and per country

| Energy conservation contributes to a reduction of climate change impacts | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.40 | 0.89 | 4.02 | 1.34 | -0.38 | -9% | 0.54 |
| **Cyprus** | 4.41 | 0.68 | 4.31 | 0.73 | -0.10 | **-2%*** | 0.02 |
| **Greece** | 4.12 | 0.66 | 4.16 | 0.72 | 0.04 | 1% | 0.42 |
| **Ireland** | 4.12 | 0.85 | 4.27 | 0.74 | 0.15 | **4%*** | 0.04 |
| **Lithuania** | 4.13 | 0.84 | 4.17 | 0.78 | 0.04 | 1% | 0.49 |
| **Romania** | 4.04 | 0.78 | 4.22 | 0.78 | 0.18 | 4% | 0.10 |
| **UK** | 4.32 | 0.79 | 4.35 | 0.68 | 0.03 | 1% | 0.43 |
| **Total** | 4.24 | 0.77 | 4.27 | 0.74 | 0.02 | 1% | 0.31 |

*: statistically significant difference

Table 28 Mean values and standard deviations about "Saving energy means I have to live less comfortably" - Total sample and per country

| Saving energy means I have to live less comfortably | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 2.40 | 0.55 | 2.89 | 1.15 | 0.49 | 20% | 0.36 |
| **Cyprus** | 2.04 | 0.88 | 2.18 | 0.90 | 0.14 | **7%*** | 0.01 |
| **Greece** | 2.18 | 0.70 | 2.25 | 0.80 | 0.07 | 3% | 0.20 |
| **Ireland** | 2.63 | 1.01 | 2.49 | 0.94 | -0.14 | -5% | 0.09 |
| **Lithuania** | 2.77 | 0.96 | 2.73 | 0.92 | -0.04 | -2% | 0.51 |
| **Romania** | 2.54 | 0.97 | 2.69 | 0.93 | 0.15 | 6% | 0.25 |
| **UK** | 2.81 | 0.98 | 2.66 | 0.97 | -0.14 | **-5%*** | 0.01 |
| **Total** | 2.50 | 0.97 | 2.48 | 0.95 | -0.02 | -1% | 0.45 |

*: statistically significant difference

Table 29 Mean values and standard deviations about "I feel jointly responsible for the exhaustion of energy sources" - Total sample and per country

| I feel jointly responsible for the exhaustion of energy sources | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.40 | 1.14 | 3.75 | 1.14 | 0.35 | 10% | 0.52 |
| **Cyprus** | 3.47 | 0.98 | 3.41 | 0.93 | -0.06 | -2% | 0.35 |
| **Greece** | 3.46 | 0.78 | 3.37 | 0.98 | -0.09 | -3% | 0.15 |
| **Ireland** | 3.48 | 0.92 | 3.64 | 0.86 | 0.16 | **5%*** | 0.04 |
| **Lithuania** | 4.39 | 0.74 | 4.33 | 0.75 | -0.06 | -1% | 0.30 |
| **Romania** | 3.72 | 0.97 | 3.89 | 0.86 | 0.17 | 5% | 0.18 |
| **UK** | 3.63 | 0.92 | 3.71 | 0.88 | 0.08 | 2% | 0.08 |
| **Total** | 3.71 | 0.95 | 3.67 | 0.94 | -0.04 | -1% | 0.12 |

*: statistically significant difference

Table 30 Mean values and standard deviations about "Saving energy is too much of a hassle" - Total sample and per country

| Saving energy is too much of a hassle | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 2.00 | 0.71 | 3.09 | 1.05 | 1.09 | 55% | 0.03 |
| **Cyprus** | 1.95 | 0.81 | 2.04 | 0.83 | 0.09 | 5% | 0.07 |
| **Greece** | 2.12 | 0.76 | 2.10 | 0.74 | -0.02 | -1% | 0.73 |
| **Ireland** | 2.14 | 0.94 | 2.10 | 0.92 | -0.04 | -2% | 0.61 |
| **Lithuania** | 2.48 | 0.87 | 2.47 | 0.89 | -0.01 | 0% | 0.89 |
| **Romania** | 2.36 | 0.99 | 2.16 | 0.91 | -0.19 | -8% | 0.16 |
| **UK** | 2.20 | 0.92 | 2.13 | 0.87 | -0.07 | -3% | 0.12 |
| **Total** | 2.19 | 0.89 | 2.16 | 0.88 | -0.03 | -1% | 0.21 |

Table 31 Mean values and standard deviations about "I can reduce my energy use quite easily" - Total sample and per country

| I can reduce my energy use quite easily | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.60 | 1.14 | 2.98 | 1.14 | -0.62 | -17% | 0.25 |
| **Cyprus** | 3.85 | 0.77 | 3.77 | 0.78 | -0.08 | -2% | 0.10 |
| **Greece** | 3.65 | 0.66 | 3.60 | 0.78 | -0.05 | -1% | 0.31 |
| **Ireland** | 3.78 | 0.83 | 3.71 | 0.85 | -0.07 | -2% | 0.32 |
| **Lithuania** | 3.56 | 0.82 | 3.59 | 0.84 | 0.04 | 1% | 0.55 |
| **Romania** | 3.78 | 0.86 | 4.05 | 0.72 | 0.27 | **7%*** | 0.01 |
| **UK** | 3.75 | 0.83 | 3.69 | 0.83 | -0.06 | -2% | 0.16 |
| **Total** | 3.72 | 0.80 | 3.69 | 0.83 | -0.04 | -1% | 0.11 |

*: statistically significant difference

Table 32 Mean values and standard deviations about "Everyone including myself is responsible for climate change" - Total sample and per country

| Everyone including myself is responsible for climate change | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.00 | 1.22 | 4.27 | 1.00 | 0.27 | 7% | 0.57 |
| **Cyprus** | 4.32 | 0.79 | 4.21 | 0.86 | -0.11 | **-3%*** | 0.03 |
| **Greece** | 3.99 | 0.78 | 4.07 | 0.85 | 0.08 | 2% | 0.18 |
| **Ireland** | 4.38 | 0.85 | 4.42 | 0.80 | 0.04 | 1% | 0.57 |
| **Lithuania** | 4.15 | 0.99 | 4.15 | 0.90 | 0.00 | 0% | 0.99 |
| **Romania** | 4.18 | 1.00 | 4.40 | 0.83 | 0.22 | 5% | 0.08 |
| **UK** | 4.34 | 0.90 | 4.44 | 0.77 | 0.11 | **2%*** | 0.02 |
| **Total** | 4.24 | 0.89 | 4.30 | 0.84 | 0.06 | **1%*** | 0.01 |

*: statistically significant difference

Table 33 Mean values and standard deviations about "Most people who are important to me try to pay attention to their energy use" - Total sample and per country

| Most people who are important to me try to pay attention to their energy use | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 4.00 | 0.00 | 3.50 | 1.00 | -0.50 | -13% | 0.002 |
| **Cyprus** | 3.48 | 0.92 | 3.36 | 0.83 | -0.12 | **-3%*** | 0.03 |
| **Greece** | 3.24 | 0.76 | 3.26 | 0.84 | 0.02 | 1% | 0.77 |
| **Ireland** | 3.15 | 0.96 | 3.20 | 0.98 | 0.06 | 2% | 0.51 |
| **Lithuania** | 2.84 | 1.02 | 2.87 | 1.01 | 0.04 | 1% | 0.63 |
| **Romania** | 3.54 | 0.99 | 3.45 | 0.98 | -0.10 | -3% | 0.48 |
| **UK** | 3.35 | 0.91 | 3.36 | 0.98 | 0.01 | 0% | 0.79 |
| **Total** | 3.25 | 0.95 | 3.26 | 0.95 | 0.00 | 0% | 0.87 |

*: statistically significant difference

Table 34 Mean values and standard deviations about "I feel morally obliged to save energy, regardless of what others do" - Total sample and per country

| I feel morally obliged to save energy, regardless of what others do | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD | mean | SD | | | |
| **Bulgaria** | 3.80 | 0.84 | 3.68 | 1.095 | -0.12 | -3% | 0.82 |
| **Cyprus** | 4.22 | 0.77 | 4.06 | .798 | -0.16 | **-4%*** | 0.001 |
| **Greece** | 3.84 | 0.77 | 3.94 | 0.84 | 0.09 | 2% | 0.10 |
| **Ireland** | 3.89 | 0.93 | 4.08 | 0.81 | 0.19 | **5%*** | 0.01 |
| **Lithuania** | 3.64 | 0.96 | 3.62 | 0.93 | -0.02 | 0% | 0.79 |
| **Romania** | 3.77 | 1.01 | 3.74 | 1.05 | -0.03 | -1% | 0.82 |
| **UK** | 4.10 | 0.86 | 4.19 | 0.78 | 0.09 | **2%*** | 0.03 |
| **Total** | 3.96 | 0.89 | 4.01 | 0.85 | 0.05 | **1%*** | 0.046 |

*: statistically significant difference

## 3.10 Important criteria when choosing home appliances

Respondents were asked to select the three most important criteria when choosing home appliances from a list provided to them. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant for each of the two groups. Findings are summarized for the total sample in Figure 9 and presented in more detail for the total sample and per country in Table 35 – table 37.

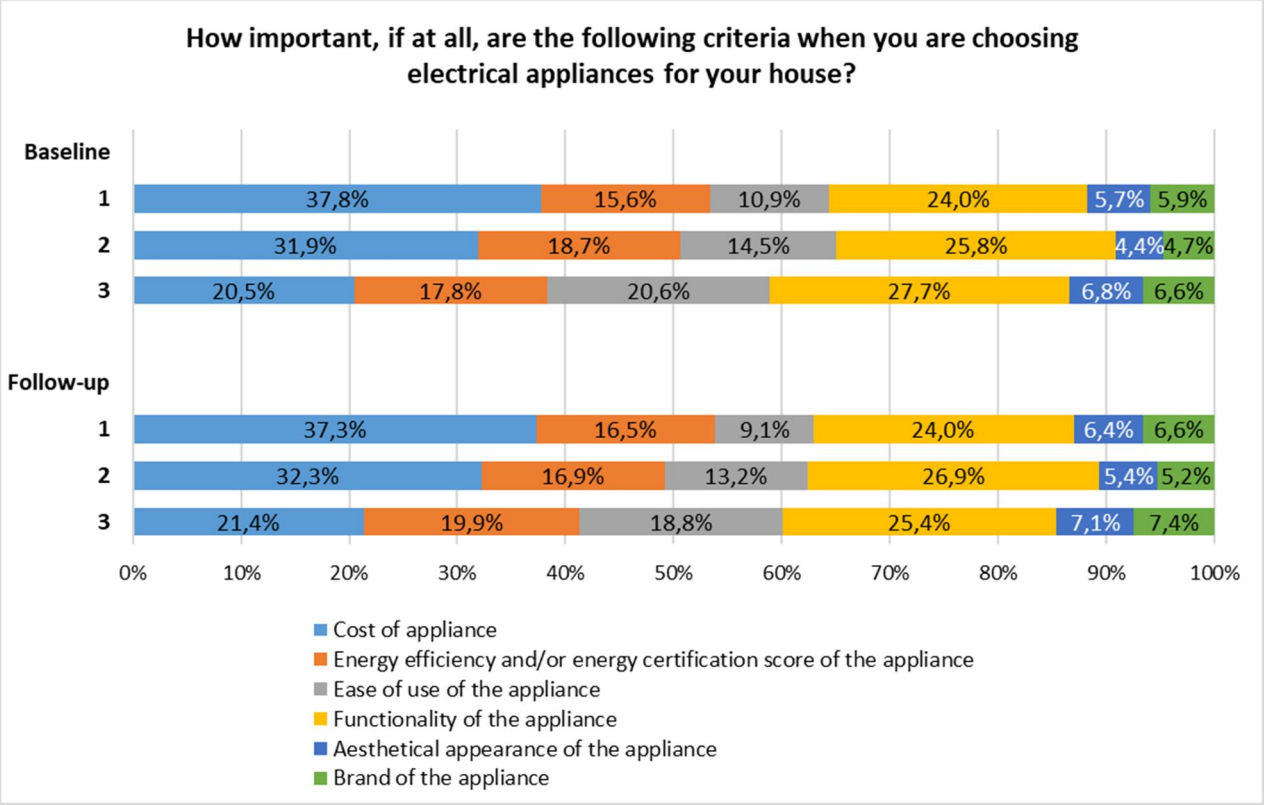


Figure 9 Important criteria when choosing home appliances – Total sample

At the beginning of the academic year 90% of those surveyed stated that "Cost of appliance" was among their three most important criteria when choosing home appliances followed by "Functionality of the appliance" (78%) and "Energy efficiency and /or energy certification score of the appliance" (52%). In Bulgaria (50%) and Lithuania (33%), "Functionality of the appliance" was the most important criterion when choosing home appliances. In Cyprus (36%), Greece (43%), Ireland (34%) and the UK (47%) "Cost of appliance" was the top criterion. In Romania (32%), "Energy efficiency and /or energy certification score of the appliance" was the most important criterion.

The end of year results show that almost all (91%) of the respondents stated "Cost of the appliance" was among their three most important criteria when choosing home appliances followed by "Functionality of the appliance" (76%) and "Energy efficiency and /or energy certification score of the appliance" (53%). In Bulgaria (66%), Cyprus (33%), Greece (37%), Ireland (34%), Lithuania (30%) and the UK (46%), "Cost of appliance" was the most important criterion when choosing home appliances. In Romania (35%), the "Energy efficiency and/ or energy certification score of the appliance" criterion was pointed out as the determining factor.

Statistically significant differences in students' choices between the baseline and follow-up survey were only noted in Greece and Lithuania (Table 35 - Table 37).

In Greece, at the end of the academic year, a statistically significant decrease of -15% is observed in the share of respondents who consider "Ease of use of the appliance" as their most important criterion when choosing electrical appliances for their house (z=4.691, p<0.001). On the contrary, a statistically significant increase of +10% is observed in the share of those questioned who consider "Functionality of the appliance" as their most important criterion when selecting electrical appliances for their house (z=-2.893, p=0.002). Moreover, a statistically significant increase of +8% is observed in the share of those who consider "Energy efficiency and/or energy certification score of the appliance" as their most important criterion by the end of the academic year (z=-2.812, p=0.002).

In Lithuania, in the follow-up survey, a statistically significant decrease of -7% is observed in the share of respondents who consider "Energy efficiency and/or energy certification score of the appliance" as their most important criterion when choosing electrical appliances for their house (z=2.155, p<0.001).

**Table 35 First most important criterion when choosing home appliances – Total sample and per country**

| RANK 1 | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Cost of appliance | **Follow-up** | 66.7% | 33.3% | 36.8% | 34.4% | 30.4% | 30.9% | 46.4% | 37.3% |
| | **Baseline** | 25.0% | 36.4% | 43.4% | 33.7% | 26.3% | 29.5% | 46.7% | 37.8% |
| | **difference from baseline** | 41.7% | -3.1% | -6.6% | 0.6% | 4.0% | 1.4% | -0.3% | -0.4% |
| Energy efficiency and/or energy certification score of the appliance | **Follow-up** | 3.3% | 18.2% | 17.4% | 20.7% | 13.8% | 34.6% | 10.1% | 16.5% |
| | **Baseline** | 25.0% | 17.4% | 9.4% | 21.3% | 21.1% | 32.1% | 10.0% | 15.6% |
| | **difference from baseline** | -21.7% | 0.8% | **8.0%*** | -0.6% | **-7.2%*** | 2.5% | 0.2% | 0.9% |
| Ease of use of the appliance | **Follow-up** | 20.0% | 10.0% | 8.3% | 9.2% | 7.1% | 4.9% | 10.1% | 9.1% |
| | **Baseline** | 0.0% | 7.2% | 23.0% | 10.1% | 6.8% | 5.1% | 8.9% | 10.9% |
| | **difference from baseline** | 20.0% | 2.8% | **-14.7%*** | -0.9% | 0.3% | -0.2% | 1.2% | -1.8% |
| Functionality of the appliance | **Follow-up** | 10.0% | 21.0% | 28.5% | 21.1% | 33.9% | 23.5% | 21.1% | 24.0% |
| | **Baseline** | 50.0% | 23.9% | 18.2% | 21.3% | 33.1% | 19.2% | 22.3% | 24.0% |
| | **difference from baseline** | -40.0% | -3.0% | **10.2%*** | -0.3% | 0.8% | 4.2% | -1.2% | 0.1% |
| Aesthetical appearance of the appliance | **Follow-up** | 0.0% | 7.9% | 3.2% | 8.5% | 8.9% | 1.2% | 5.9% | 6.4% |
| | **Baseline** | 0.0% | 5.9% | 2.2% | 5.6% | 8.4% | 6.4% | 6.3% | 5.7% |
| | **difference from baseline** | 0.0% | 2.0% | 1.0% | 2.9% | 0.6% | -5.2% | -0.4% | 0.7% |
| Brand of the appliance | **Follow-up** | 0.0% | 9.6% | 5.9% | 6.1% | 5.8% | 4.9% | 6.4% | 6.6% |
| | **Baseline** | 0.0% | 9.2% | 3.8% | 7.9% | 4.3% | 7.7% | 5.8% | 5.9% |
| | **difference from baseline** | 0.0% | 0.4% | 2.2% | -1.7% | 1.5% | -2.8% | 0.6% | 0.6% |

*: statistically significant difference

Table 36 Second most important criterion when choosing home appliances - Total sample and per country

| RANK 2 | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Cost of appliance | **Follow-up** | 35.7% | 25.9% | 35.3% | 33.3% | 28.0% | 22.1% | 37.2% | 32.3% |
| | **Baseline** | 20.0% | 25.1% | 32.1% | 29.9% | 34.8% | 18.9% | 36.6% | 31.9% |
| | **difference from baseline** | 15.7% | 0.8% | 3.2% | 3.3% | -6.7% | 3.2% | 0.6% | 0.4% |
| Energy efficiency and/or energy certification score of the appliance | **Follow-up** | 21.4% | 18.3% | 18.4% | 18.5% | 18.2% | 23.4% | 12.6% | 16.9% |
| | **Baseline** | 20.0% | 23.4% | 20.8% | 16.2% | 19.5% | 18.9% | 14.4% | 18.7% |
| | **difference from baseline** | 1.4% | -5.1% | -2.5% | 2.3% | -1.4% | 4.5% | -1.9% | -1.8% |
| Ease of use of the appliance | **Follow-up** | 21.4% | 16.3% | 15.1% | 11.5% | 11.0% | 16.9% | 11.6% | 13.2% |
| | **Baseline** | 20.0% | 15.7% | 22.3% | 12.0% | 8.0% | 18.9% | 12.9% | 14.5% |
| | **difference from baseline** | 1.4% | 0.6% | **-7.2%*** | -0.5% | 2.9% | -2.0% | -1.3% | -1.3% |
| Functionality of the appliance | **Follow-up** | 19.0% | 22.3% | 25.7% | 27.5% | 35.2% | 22.1% | 27.4% | 26.9% |
| | **Baseline** | 20.0% | 25.1% | 17.6% | 26.5% | 30.2% | 24.3% | 28.7% | 25.8% |
| | **difference from baseline** | -1.0% | -2.8% | **8.2%*** | 1.0% | 5.1% | -2.2% | -1.3% | 1.1% |
| Aesthetical appearance of the appliance | **Follow-up** | 0.0% | 7.6% | 2.9% | 4.8% | 3.4% | 6.5% | 6.7% | 5.4% |
| | **Baseline** | 0.0% | 5.0% | 2.4% | 6.0% | 3.7% | 8.1% | 4.8% | 4.4% |
| | **difference from baseline** | 0.0% | 2.6% | 0.6% | -1.2% | -0.3% | -1.6% | 2.0% | 1.0% |
| Brand of the appliance | **Follow-up** | 2.4% | 9.6% | 2.6% | 4.5% | 4.2% | 9.1% | 4.5% | 5.2% |
| | **Baseline** | 20.0% | 5.8% | 4.8% | 9.4% | 3.7% | 10.8% | 2.6% | 4.7% |
| | **difference from baseline** | -17.6% | 3.8% | -2.2% | -4.9% | 0.4% | -1.7% | 1.8% | 0.5% |

*: statistically significant difference

Table 37 Third most important criterion when choosing home appliances - Total sample and per country

| RANK 3 | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Cost of appliance | **Follow-up** | 16.7% | 22.2% | 18.1% | 22.6% | 27.8% | 17.1% | 19.6% | 21.4% |
| | **Baseline** | 60.0% | 23.6% | 15.0% | 27.7% | 22.1% | 16.9% | 19.6% | 20.5% |
| | **difference from baseline** | -43.3% | -1.5% | 3.1% | -5.1% | 5.7% | 0.3% | 0.0% | 0.9% |
| Energy efficiency and/or energy certification score of the appliance | **Follow-up** | 23.8% | 19.7% | 23.3% | 19.3% | 21.2% | 15.7% | 18.6% | 19.9% |
| | **Baseline** | 40.0% | 15.9% | 25.4% | 16.0% | 17.5% | 11.7% | 15.7% | 17.8% |
| | **difference from baseline** | -16.2% | 3.7% | -2.0% | 3.4% | 3.8% | 4.0% | 2.8% | 2.1% |
| Ease of use | **Follow-up** | 19.0% | 16.1% | 24.4% | 18.8% | 11.2% | 18.6% | 21.1% | 18.8% |

| RANK 3 | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| of the appliance | **Baseline** | 0.0% | 19.5% | 18.0% | 23.5% | 16.9% | 26.0% | 23.9% | 20.6% |
| | **difference from baseline** | 19.0% | -3.4% | 6.5% | -4.7% | **-5.7%*** | -7.4% | -2.8% | -1.8% |
| Functionality of the appliance | **Follow-up** | 31.0% | 25.5% | 21.1% | 24.9% | 18.5% | 27.1% | 30.0% | 25.4% |
| | **Baseline** | 0.0% | 24.2% | 30.4% | 21.8% | 25.8% | 27.3% | 31.0% | 27.7% |
| | **difference from baseline** | 31.0% | 1.3% | **-9.3%*** | 3.0% | **-7.3%*** | -0.1% | -1.0% | -2.3% |
| Aesthetical appearance of the appliance | **Follow-up** | 4.8% | 5.5% | 4.8% | 8.0% | 11.2% | 5.7% | 7.2% | 7.1% |
| | **Baseline** | 0.0% | 7.4% | 4.7% | 5.0% | 9.2% | 6.5% | 6.6% | 6.8% |
| | **difference from baseline** | 4.8% | -1.9% | 0.1% | 3.0% | 2.0% | -0.8% | 0.6% | 0.4% |
| Brand of the appliance | **Follow-up** | 4.8% | 11.1% | 8.1% | 6.3% | 10.0% | 15.7% | 3.6% | 7.4% |
| | **Baseline** | 0.0% | 9.3% | 6.5% | 5.9% | 8.6% | 11.7% | 3.3% | 6.6% |
| | **difference from baseline** | 4.8% | 1.7% | 1.7% | 0.4% | 1.4% | 4.0% | 0.3% | 0.8% |

*: statistically significant difference

## 3.11 Awareness of smart meters

Respondents were asked if they had heard of smart meters before. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. The results for the total sample and per country are shown in Figure 10 and presented for each country as well as for the total sample in Table 38.

At the beginning of the academic year, less than half of the respondents (42% of the total sample) had heard of smart meters before. At the end of the academic year this share was +7 higher and this increase was in fact statistically significant ($z=-4.866$, $p<0.0001$).

A very encouraging finding is that the follow-up shares of those aware of smart meters are higher than the baseline in all countries (Table 38). The highest share of follow-up respondents who had heard of smart meters before was recorded in the **UK** (84%). This share is increased by +4% compared to the baseline survey ($z=-2.160$, $p=0.031$).

In **Romania**, at the end of the academic year, 65% of the respondents stated that they had heard of smart meters before. The share is +28% higher than what it was in the beginning of the academic year and the increase is statistically significant ($z=-4.037$, $p<0.0001$).

In **Lithuania**, +6% more respondents had heard of smart meters in the follow-up survey (33% of follow-up respondents). The increase is not statistically significant.
In **Ireland** 44% of the baseline respondents had heard of smart meters before. At the end of the academic year this share increased by +4% (48% of follow-up respondents). The increase is not statistically significant.

In **Greece**, a statistically significant increase of +8% is observed in the share of follow-up respondents who had heard of smart meters before ($z=-2.608$, $p=0.005$) reaching 32%. By the end of the academic year, 32% of those questioned in Greece stated that they had heard of smart meters before whereas in the beginning of the academic year this share was 23%.

In **Cyprus**, nearly one fifth of the follow-up respondents (23%) said that they have heard of smart meters before. Compared to the baseline survey, this share is increased by +3% but this difference is not statistically

significant. Cyprus has the lowest awareness levels about smart meters but this is due to the fact that smart meters have not yet been rolled-out in the country and were therefore promoted very lightly through SSO+.

In **Bulgaria**, a large increase (+30%) is observed in the share of respondents who had heard of smart meters in the follow-up survey (50% of respondents) but again the magnitude of recorded change is most like a result of the small sample size for the specific country.

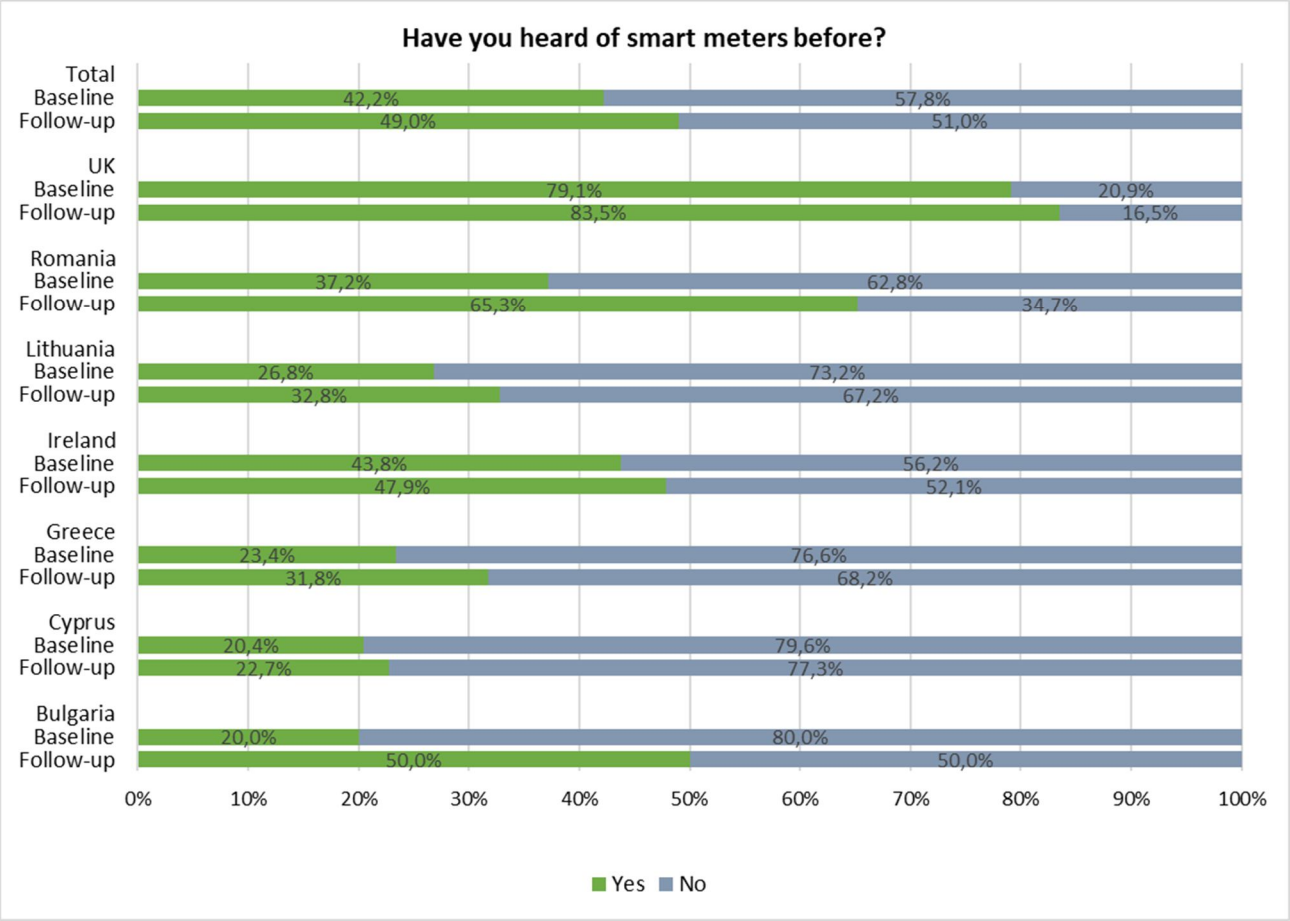


Figure 10 Awareness of smart meters - Total sample and per country

Table 38 Awareness of smart meters - Total sample and per country

| Have you heard of smart meters before? | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Yes | **Follow-up** | 50.0% | 22.7% | 31.8% | 47.9% | 32.8% | 65.3% | 83.5% | 49.0% |
| | **Baseline** | 20.0% | 20.4% | 23.4% | 43.8% | 26.8% | 37.2% | 79.1% | 42.2% |
| | **difference from baseline** | 30.0% | 2.3% | **8.4%*** | 4.1% | 6.0% | **28.1%*** | **4.4%*** | **6.8%*** |
| No | **Follow-up** | 50.0% | 77.3% | 68.2% | 52.1% | 67.2% | 34.7% | 16.5% | 51.0% |
| | **Baseline** | 80.0% | 79.6% | 76.6% | 56.2% | 73.2% | 62.8% | 20.9% | 57.8% |
| | **difference from baseline** | -30.0% | -2.3% | -8.4% | -4.1% | -6.0% | -28.1% | -4.4% | -6.8% |

*: statistically significant difference

## 3.12 Presence of smart meters

Respondents were asked if they have a smart meter in their current accommodation. This question was not applicable to participants who replied negatively in the question "Have you heard of smart meters before". Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. The results per country and for the total sample are illustrated in Figure 11 and presented in Table 39.

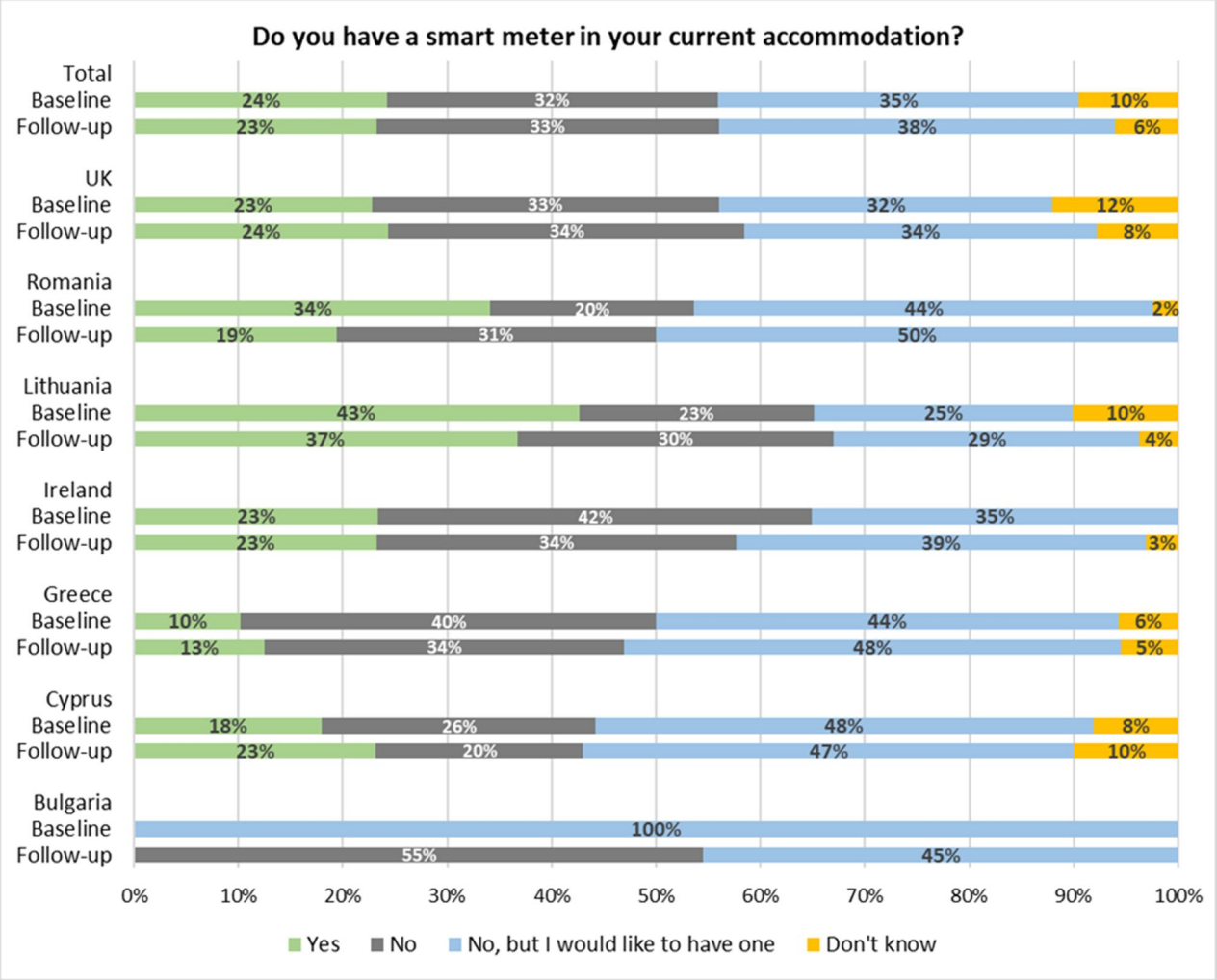


**Figure 11 Presence of smart meters in respondents' accommodation - Total sample and per country**

In the baseline survey, almost a quarter of the respondents (24%) who stated that they had heard of smart meters before, had a smart meter in their accommodation at that time. Thirty-two percent (32%) of the respondents reported that they did not have a smart meter, however, 35% of all respondents stated that they would like to have one. Furthermore, 10% didn't know if they had a smart meter installed in their house.

In the follow-up survey the share of those surveyed that had a smart meter in their accommodation (23%) is very similar to that of the baseline survey. Thirty-three (33%) of the participants in the follow-up survey, again similar to the share in the baseline, reported that they didn't have a smart meter. However, the share of those that would like to have a smart meter increased by +3% (38% in the follow-up). Eventually, the share of those who didn't know if they have a smart meter in their current accommodation reduced to 6%. This decrease (-4%) is statistically significant ($z=3.192$, $p<0.0001$).

In **Bulgaria**, 55% of the follow-up respondents did not have a smart meter whereas 45% would like to have one (Tabel 39). In the baseline survey, the only one participant who had heard of smart meters before, stated that he would like to have one.

In **Cyprus** +5% more respondents had a smart meter in their accommodation (23%) at the end of the year. In the follow-up survey 20% of respondents stated that they don't have a smart meter (-6% reduction from baseline) whereas 47% stated that they would like to have one (-1% from baseline). Ten percent (10%) of the respondents didn't know if they have a smart meter in their accommodation (+2% increase from the beginning of the academic year). No statistically significant differences between the baseline and follow-up survey proportions were recorded.

**Table 39 Presence of smart meters in respondents' accommodation - Total sample and per country**

| Do you have a smart meter in your current accommodation? | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Yes | **Follow-up** | 0.0% | 23.1% | 12.5% | 23.3% | 36.7% | 19.4% | 24.4% | 23.3% |
| | **Baseline** | 0.0% | 18.0% | 10.2% | 23.4% | 42.6% | 34.1% | 22.8% | 24.2% |
| | **difference from baseline** | 0.0% | 5.1% | 2.3% | -0.1% | -5.9% | -14.7% | 1.6% | -0.9% |
| No | **Follow-up** | 54.5% | 19.8% | 34.4% | 34.4% | 30.3% | 30.6% | 34.1% | 32.7% |
| | **Baseline** | 0.0% | 26.1% | 39.8% | 41.6% | 22.5% | 19.5% | 33.2% | 31.7% |
| | **difference from baseline** | 54.5% | -6.3% | -5.4% | -7.2% | 7.8% | 11.1% | 0.9% | 1.0% |
| No, but I would like to have one | **Follow-up** | 45.5% | 47.1% | 47.7% | 39.3% | 29.4% | 50.0% | 33.8% | 38.0% |
| | **Baseline** | 100.0% | 47.7% | 44.3% | 35.1% | 24.8% | 43.9% | 32.0% | 34.6% |
| | **difference from baseline** | -54.5% | -0.6% | 3.4% | 4.2% | 4.6% | 6.1% | 1.8% | 3.4% |
| Don't know | **Follow-up** | 0.0% | 9.9% | 5.5% | 3.1% | 3.7% | 0.0% | 7.8% | 6.0% |
| | **Baseline** | 0.0% | 8.1% | 5.7% | 0.0% | 10.1% | 2.4% | 12.0% | 9.5% |
| | **difference from baseline** | 0.0% | 1.8% | -0.2% | 3.1% | -6.4% | -2.4% | **-4.2%*** | **-3.5%*** |

*: statistically significant difference

Thirteen percent (13%) of the follow-up respondents from **Greece** had a smart meter while 48% reported that they would like to have one. At the beginning of the academic year, 10% of those questioned stated that they had a smart meter and 44% stated that they would like to have a smart meter. Moreover, in the follow-up survey, 34% of the respondents stated that they did not have a smart meter (-5% from baseline) and 5%, as in the baseline, stated that they didn't know if they had one. No statistically significant differences between the baseline and follow-up survey proportions were recorded.

In **Ireland**, 23% of the follow-up respondents had a smart meter. This share remained unchanged from the beginning of the academic year. In addition, 39% of the follow-up respondents would like to have a smart meter (+4% more than in the baseline). More than one third of the participants (34%) didn't have a smart meter in their accommodation however this share is smaller than that in the baseline survey (42%). Finally, 3% did not know if they have a smart meter in their accommodation (was 0% in the baseline). None of the differences was statistically significant.

In **Lithuania**, 37% of the follow-up respondents had a smart meter in their accommodation (6% less than in the baseline). However, the share of participants that would like to have a smart meter is higher in the follow-

up (29%) than it is in the baseline survey (25%) of the respondents reported that they would like to have one. No statistically significant differences between the baseline and follow-up survey proportions were recorded.

In **Romania**, at the end of the academic year, 19% of the respondents had a smart meter in their accommodation (15% less than in the baseline) whereas 50% (compared to 44% in the baseline) stated that they would like to have one. None of the respondents stated that they didn't know if they have a smart meter in their accommodation. No statistically significant differences between the baseline and follow-up survey proportions were found.

For the **UK**, less than a quarter of those who had heard of smart meters before in both surveys had a smart meter in their house. At the end of the academic year, 34% of the respondents would like to have a smart meter in their homes (was 32% in the baseline). Finally, a statistically significant reduction (reduced from 12% to 8%) of those that didn't know if they had a smart meter was observed in the follow-up survey ($z=2.438$, $p=0.007$).

## 3.13 Opinions about smart meters

Respondents were asked about their level of agreement, if at all, with given statements with respect to smart meters. Results for the total sample are presented in Figure 12 on a 1 to 5 scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree), and tabulated for each country and for the total sample in Table 40 to Table 44. Mean values over 3.5 indicate agreement with the statement. This question was not applicable to participants who replied negatively in the question "Have you heard of smart meters before". A low standard deviation (SD) indicates that the given answers tend to be close to the mean value, while a high standard deviation indicates that the given answers are spread out over a wider range of values. Independent samples t-test was used to determine whether the differences in the mean values recorded between the baseline and follow-up survey are statistically significant for each of the two groups.

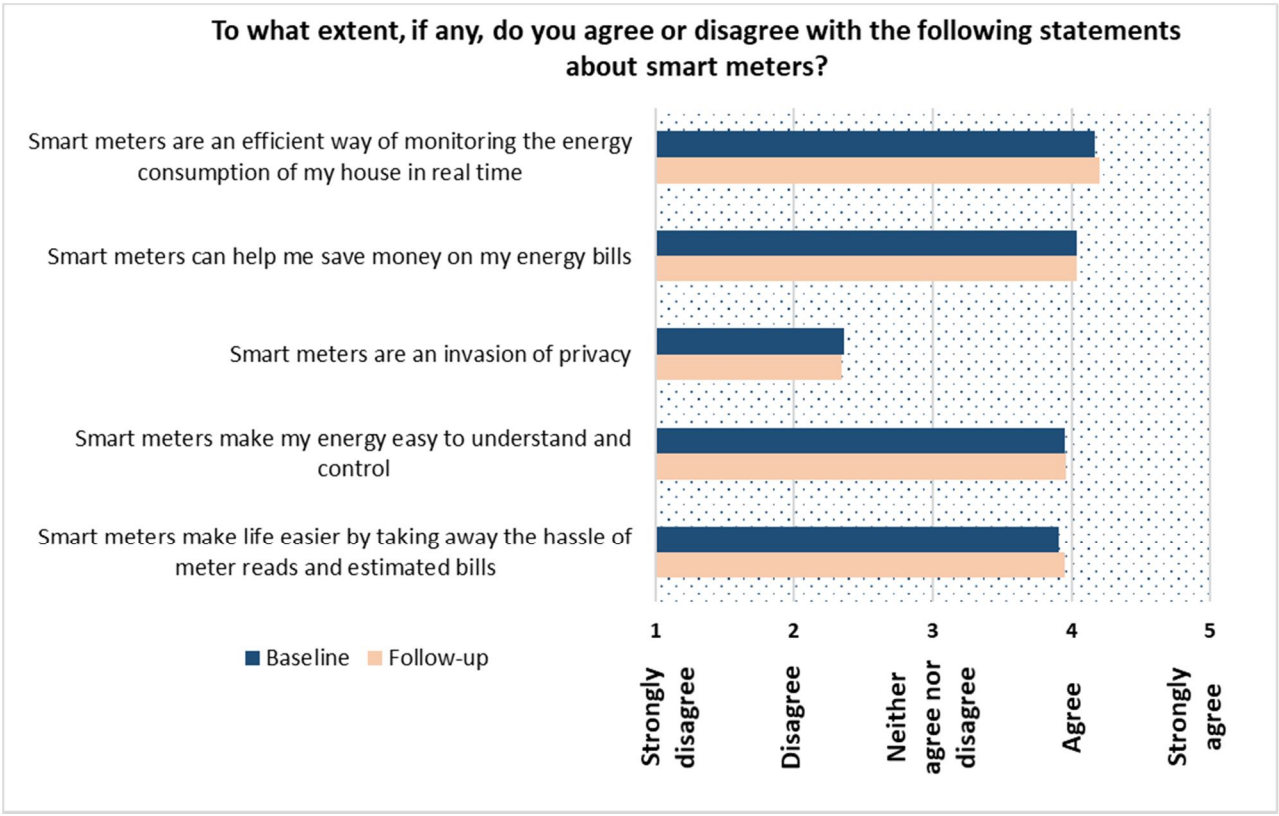


Figure 12 Opinions about smart meters - Total sample

Overall, respondents in both the baseline and in the follow-up survey had positive opinions about smart meters. These opinions remained unchanged over the academic year (Figure 12). In fact in all countries, respondents in both surveys agreed (mean values close to 4.0) with the four positive statements:

- Smart meters are an efficient way of monitoring the energy consumption of my house in real time
- Smart meters can help me to save money on my energy bills
- Smart meters make my energy easy to understand and control
- Smart meters make life easier by taking away the hassle of meter reads and estimated bills

and disagreed (mean values closer to 2.0) with the one negative statement:

- Smart meters are an invasion of privacy.

- Statistically significant differences in opinions between the baseline and follow-up surveys were observed for one or more statements in Greece, Ireland and Romania (Table 40 to Table 44).

The following statistically significant differences in mean values were recorded in **Greece**:

- Smart meters are an efficient way of monitoring the energy consumption of my house in real time. +5% in follow-up mean value suggesting a higher agreement with the statement (*t(206)=-2.526, p=0.012*).
- Smart meters can help me to save money on my energy bills. +4% in follow-up mean value suggesting a higher agreement with the statement (*t(184)=-2.197, p=0.029*)
- Smart meters make my energy easy to understand and control. +5% in follow-up mean value suggesting a higher agreement with the statement (*t(204)=-2.012, p=0.045*).

In **Ireland** a statistically significant difference of +6% in the follow-up mean value, and therefore a stronger agreement with "Smart meters make life easier by taking away the hassle of meter reads and estimated bills" was observed (*t(336)=-2.253, p=0.025*).

In **Romania** the following statistically significant differences were recorded:

- Smart meters are an invasion of privacy. -16% in follow-up mean value suggesting a stronger disagreement with the statement (*t(97)=2.131, p=0.036*)
- Smart meters make my energy easy to understand and control. +8% in follow-up mean value suggesting a stronger agreement with the statement (*t(98)=-2.257, p=0.026*).

**Table 40 Mean values and standard deviations about "Smart meters are an efficient way of monitoring the energy consumption of my house in real time" - Total sample and per country**

| **Smart meters are an efficient way of monitoring the energy consumption of my house in real time** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Baseline** | | **Follow-up** | | **Change in mean value** | **% change in mean value** | **p value** |
| | **mean** | **SD[1]** | **mean** | **SD** | | | |
| **Bulgaria** | 5.00 | - | 4.45 | 0.74 | -0.55 | -11% | n/a |
| **Cyprus** | 4.27 | 0.76 | 4.15 | 0.74 | -0.12 | -3% | 0.25 |
| **Greece** | 4.06 | 0.67 | 4.27 | 0.53 | 0.21 | **5%*** | 0.01 |
| **Ireland** | 4.16 | 0.75 | 4.24 | 0.65 | 0.08 | 2% | 0.36 |
| **Lithuania** | 4.15 | 0.70 | 4.17 | 0.68 | 0.02 | 0% | 0.83 |
| **Romania** | 4.40 | 0.59 | 4.52 | 0.65 | 0.11 | 3% | 0.38 |
| **UK** | 4.15 | 0.75 | 4.16 | 0.77 | 0.01 | 0% | 0.87 |
| **Total** | 4.17 | 0.73 | 4.21 | 0.72 | 0.04 | 1% | 0.19 |

*: statistically significant difference

[1] Since only one Bulgarian participant answered this question in the baseline survey, a value for the standard deviation cannot be calculated. In the absence of standard deviation, statistical t-tests cannot be executed for Bulgaria.

Table 41 Mean values and standard deviations about "Smart meters can help me to save money on my energy bills" - Total sample and per country

| Smart meters can help me to save money on my energy bills | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD[1] | mean | SD | | | |
| **Bulgaria** | 5.00 | - | 4.45 | 0.74 | -0.55 | -11% | n/a |
| **Cyprus** | 4.24 | 0.73 | 4.09 | 0.69 | -0.15 | -4% | 0.12 |
| **Greece** | 3.98 | 0.51 | 4.13 | 0.50 | 0.16 | **4%*** | 0.03 |
| **Ireland** | 4.01 | 0.82 | 4.15 | 0.80 | 0.13 | 3% | 0.20 |
| **Lithuania** | 3.95 | 0.80 | 3.93 | 0.79 | -0.02 | -1% | 0.85 |
| **Romania** | 4.17 | 0.76 | 4.36 | 0.77 | 0.20 | 5% | 0.21 |
| **UK** | 4.03 | 0.81 | 3.94 | 0.89 | -0.09 | -2% | 0.08 |
| **Total** | 4.04 | 0.78 | 4.04 | 0.82 | 0.00 | 0% | 1.00 |

*: statistically significant difference

Table 42 Mean values and standard deviations about "Smart meters are an invasion of privacy" - Total sample and per country

| Smart meters are an invasion of privacy | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD[1] | mean | SD | | | |
| **Bulgaria** | 2.00 | - | 2.82 | 1.14 | 0.82 | 41% | n/a |
| **Cyprus** | 2.39 | 0.87 | 2.43 | 0.86 | 0.04 | 2% | 0.75 |
| **Greece** | 2.25 | 0.70 | 2.31 | 0.74 | 0.06 | 3% | 0.52 |
| **Ireland** | 2.40 | 0.99 | 2.41 | 0.94 | 0.01 | 0% | 0.95 |
| **Lithuania** | 2.55 | 0.82 | 2.62 | 0.93 | 0.07 | 3% | 0.56 |
| **Romania** | 2.67 | 0.95 | 2.23 | 1.05 | -0.44 | **-16%*** | 0.04 |
| **UK** | 2.31 | 0.86 | 2.25 | 0.87 | -0.06 | -3% | 0.23 |
| **Total** | 2.36 | 0.86 | 2.34 | 0.90 | -0.02 | -1% | 0.55 |

*: statistically significant difference

Table 43 Mean values and standard deviations about "Smart meters make my energy easy to understand and control" - Total sample and per country

| Smart meters make my energy easy to understand and control | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD[1] | mean | SD | | | |
| **Bulgaria** | 3.00 | - | 4.45 | 0.67 | 1.45 | 48% | n/a |
| **Cyprus** | 4.13 | 0.68 | 3.92 | 0.70 | -0.22 | -5% | 0.02 |
| **Greece** | 3.85 | 0.60 | 4.04 | 0.73 | 0.19 | **5%*** | 0.045 |
| **Ireland** | 3.88 | 0.76 | 3.95 | 0.80 | 0.07 | 2% | 0.51 |
| **Lithuania** | 4.02 | 0.73 | 4.06 | 0.67 | 0.03 | 1% | 0.73 |
| **Romania** | 4.07 | 0.71 | 4.38 | 0.64 | 0.31 | **8%*** | 0.03 |
| **UK** | 3.93 | 0.73 | 3.88 | 0.82 | -0.05 | -1% | 0.27 |

| Smart meters make my energy easy to understand and control | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD[1] | mean | SD | | | |
| **Total** | 3.95 | 0.72 | 3.96 | 0.78 | 0.00 | 0% | 0.93 |

*: statistically significant difference

Table 44 Mean values and standard deviations about "Smart meters make life easier by taking away the hassle of meter reads and estimated bills" - Total sample and per country

| Smart meters make life easier by taking away the hassle of meter reads and estimated bills | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Baseline | | Follow-up | | Change in mean value | % change in mean value | p value |
| | mean | SD[1] | mean | SD | | | |
| **Bulgaria** | 4.00 | - | 4.55 | 0.86 | 0.55 | 14% | n/a |
| **Cyprus** | 3.92 | 0.90 | 3.71 | 0.80 | -0.21 | -5% | 0.07 |
| **Greece** | 3.77 | 0.77 | 3.93 | 0.84 | 0.16 | 4% | 0.15 |
| **Ireland** | 3.74 | 0.83 | 3.97 | 0.79 | 0.23 | **6%*** | 0.02 |
| **Lithuania** | 3.97 | 0.85 | 4.00 | 0.76 | 0.03 | 1% | 0.77 |
| **Romania** | 4.24 | 0.69 | 4.29 | 0.77 | 0.06 | 1% | 0.71 |
| **UK** | 3.92 | 0.79 | 3.93 | 0.82 | 0.01 | 0% | 0.82 |
| **Total** | 3.91 | 0.81 | 3.95 | 0.81 | 0.04 | 1% | 0.25 |

*: statistically significant difference

## 3.14 Foreknowledge of Energy Performance Certificate (EPC)

Respondents were asked if they had heard of energy performance certificates (EPC) before. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. The results for each country and for the total sample are shown on Figure 13 and tabulated in Table 45.

In the baseline survey, less than half of the respondents (46% of baseline respondents) had heard of an EPC before. At the end of the academic year this share was +5% higher (51% of follow-up respondents). This increase was statistically significant ($z=-3.607$, $p<0.001$)

In all countries except for Bulgaria, respondents had some knowledge about EPC in both surveys.

In **Bulgaria**, none of the baseline participants had heard of an EPC before while at the end of the academic year 57% had heard of it.

In **Cyprus**, the share of respondents that had heard of an EPC increased from 34% in the baseline to 36% in the follow-up survey.

In **Greece**, an +8% increase is observed in the follow-up survey which was in fact statistically significant ($z=-2.222$, $p=0.026$). At the end of the academic year, 36% of the respondents stated that they had heard of an EPC before compared to 28% at the beginning of the academic year.

In **Ireland**, 46% of those questioned in the follow-up survey stated that they had heard of an EPC before. In the baseline this proportion was 2% higher (48%).

In **Lithuania**, the share of those that had heard of an EPC before increased from 50% to 56% in the follow-up survey.

In **Romania**, the biggest difference (+16%) in knowledge about EPC's is observed over the academic year (z=-2.299, p=0.021). At the end of the academic year, 48% of the respondents stated that they had heard of an EPC before compared to 33% at the beginning.

The highest shares of respondents who had heard of EPCs before the baseline survey occurred are recorded in the **UK**. At the end of the academic year 72% of respondents had heard of an EPC. This share is +8% higher than the baseline share and the increase is statistically significant (z=-3.349, p=0.001).

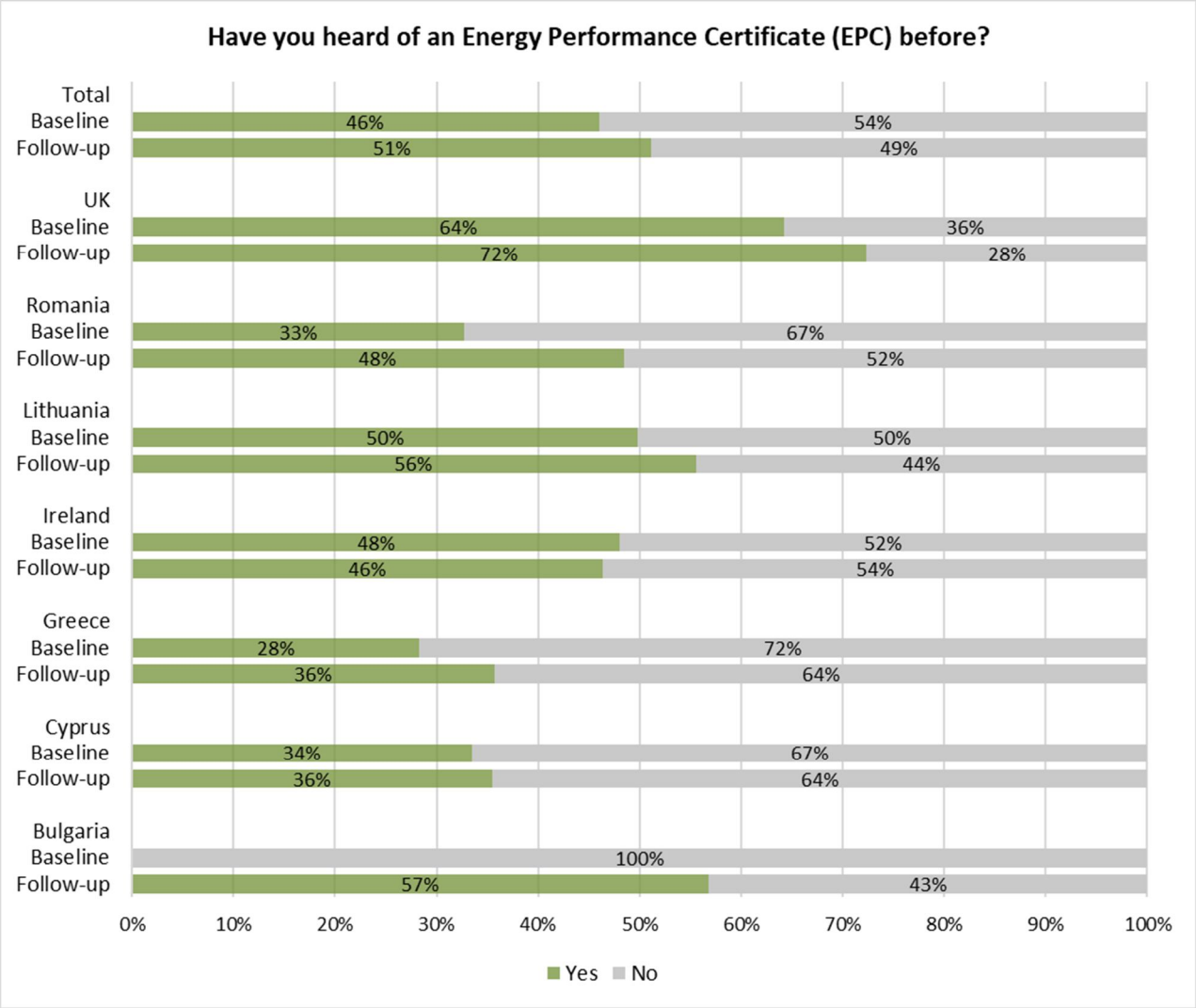


Figure 13 Awareness of Energy Performance Certificate - Total sample and per country

Table 45 Awareness of Energy Performance Certificate - Total sample and per country

| Have you heard of an Energy Performance Certificate (EPC) before? | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Yes | **Follow-up** | 56.8% | 35.5% | 35.8% | 46.4% | 55.5% | 48.4% | 72.4% | 51.1% |
| | **Baseline** | 0.0% | 33.5% | 28.3% | 48.0% | 49.8% | 32.7% | 64.2% | 46.0% |
| | **difference from baseline** | 56.8% | 2.0% | **7.5%*** | -1.6% | 5.7% | **15.7%*** | **8.2%*** | **5.1%*** |

| Have you heard of an Energy Performance Certificate (EPC) before? | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| No | **Follow-up** | 43.2% | 64.5% | 64.3% | 53.6% | 44.5% | 51.6% | 27.6% | 48.9% |
| | **Baseline** | 100.0% | 66.5% | 71.7% | 52.0% | 50.2% | 67.% | 35.8% | 54.0% |
| | **difference from baseline** | -56.8% | -2.0% | -7.5% | 1.6% | -5.7% | -15.7% | -8.18% | -5.1% |

*: statistically significant difference

## 3.15 EPC viewing before moving into new accommodation

Respondents were asked if they saw the energy performance certificate (EPC) of their current property before they moved in. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey are statistically significant. The results for each country and for the total sample are illustrated in Figure 14 and tabulated in Table 46.

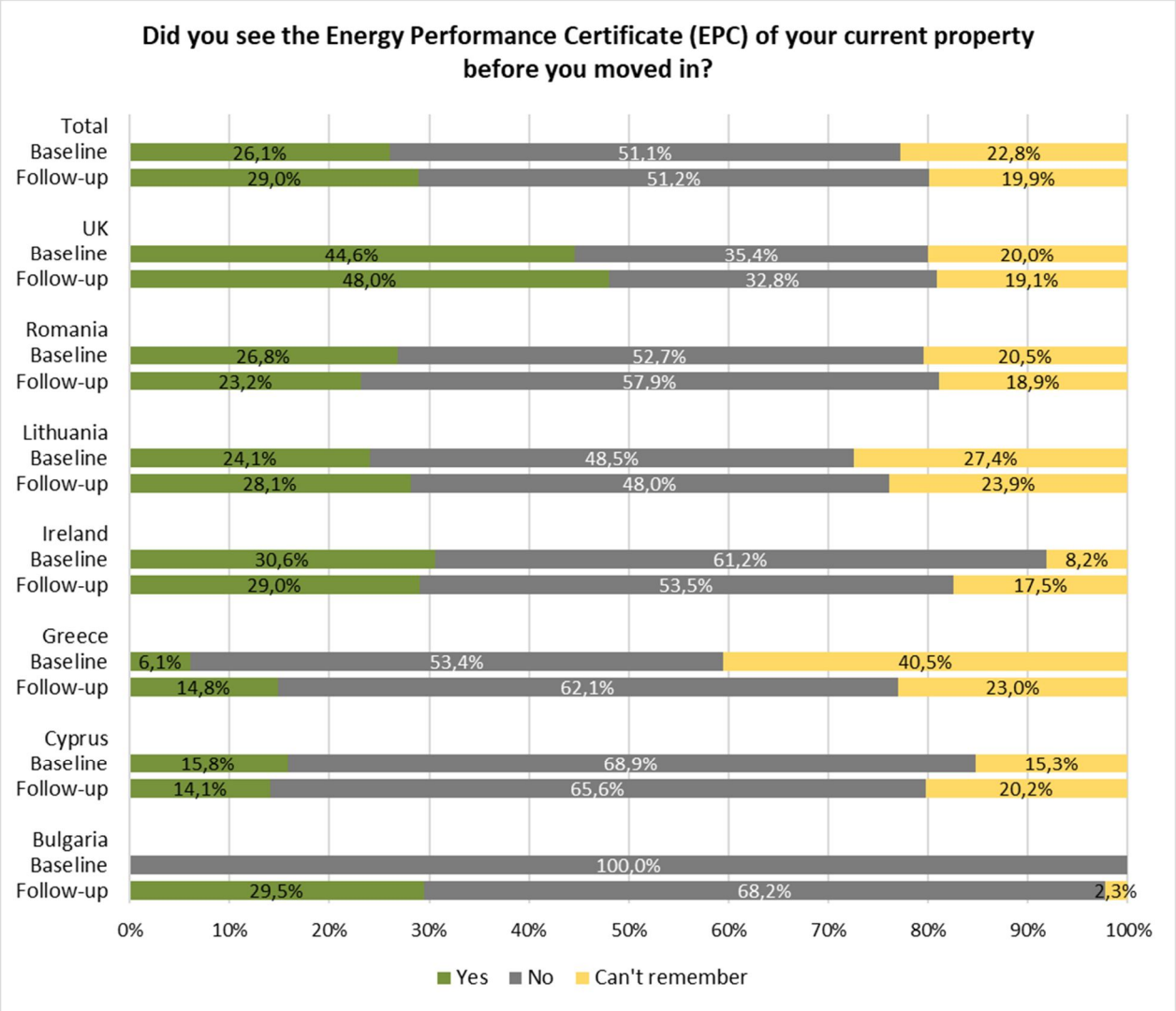


Figure 14 EPC viewing of current property before moved in – Total sample and per country

In the baseline survey, more than a quarter of the respondents (26%), stated that they saw the EPC of their current property before moving in. On the other hand, 51% of the respondents did not see the EPC before moving in and another 23% stated that they couldn't remember if they had seen it or not.

In the follow-up survey the share of those surveyed that saw the EPC of their current accommodation before they moved in was 29%. This share was increased by +3% compared to the baseline survey and the increase was statistically significant (z=-2.284, p=0.022). This increase is in accordance to the increased share of follow-up respondents (+5%) who had heard of an EPC before and indicates higher awareness levels with regard to EPCs. Furthermore, 51% of the participants in the follow-up survey, had not seen the EPC of their current property (same as in baseline) whereas 20% stated (3% less than the baseline) could not remember if they had seen the EPC of their property or not (z=2.562 , p=0.01).

In **Bulgaria**, 30% of the follow-up respondents saw the EPC of their current accommodation before they moved in whereas 68% didn't see it and 2% couldn't remember if they had seen it or not. At the beginning of the academic year, none of the respondents saw the EPC of their current accommodation before they moved in.

In **Cyprus**, 14% of those surveyed in the follow-up survey (2% less than in the baseline) saw the EPC of their current accommodation before they moved in whereas 66% didn't see it (3% less than in the baseline) and 20% couldn't remember if they had seen it (5% more than in the baseline) (z=-2.116, p=0.034).

Fifteen percent of the follow-up respondents in **Greece** (9% more than in the baseline) had seen the EPC of their current property before they moved in while 62% (9% more than in the baseline) had not. Twenty-three percent in the follow-up and 41% in the baseline could not remember seeing it or not. All three differences were statistically significant (had seen the EPC of the property: z=-3.975, p<0.001; had not seen the EPC of the property: z=-2.453, p=0.007; could not remember: z=5.226, p<0.001).

**Table 46 EPC viewing before moving into current property - Total sample and per country**

| **Did you see the Energy Performance Certificate (EPC) of your current property before you moved in?** | | **Bulgaria** | **Cyprus** | **Greece** | **Ireland** | **Lithuania** | **Romania** | **UK** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| Yes | **Follow-up** | 29.5% | 14.1% | 14.8% | 29.0% | 28.1% | 23.2% | 48.0% | 29.0% |
| | **Baseline** | 0.0% | 15.8% | 6.1% | 30.6% | 24.1% | 26.8% | 44.6% | 26.1% |
| | **difference from baseline** | 29.5% | -1.7% | **8.7%*** | -1.6% | 4.0% | -3.6% | 3.4% | **2.9%*** |
| No | **Follow-up** | 68.2% | 65.6% | 62.1% | 53.5% | 48.0% | 57.9% | 32.8% | 51.2% |
| | **Baseline** | 100.0% | 68.9% | 53.4% | 61.2% | 48.5% | 52.7% | 35.4% | 51.1% |
| | **difference from baseline** | -31.8% | -3.3% | **8.7%*** | -7.7% | -0.5% | 5.2% | -2.6% | 0.1% |
| Can't remember | **Follow-up** | 2.3% | 20.2% | 23.0% | 17.5% | 23.9% | 18.9% | 19.1% | 19.9% |
| | **Baseline** | 0.0% | 15.3% | 40.5% | 8.2% | 27.4% | 20.5% | 20.0% | 22.8% |
| | **difference from baseline** | 2.3% | **4.9%*** | **-17.5%*** | **9.3%*** | -3.5% | -1.6% | -0.9% | **-2.9%*** |

*: statistically significant difference

In **Ireland**, in the follow-up survey, 29% of the respondents (31% in the baseline) saw the EPC of their current property before they moved in. On the other hand, 54% of the follow-up respondents (61% in the baseline) didn't see the EPC of their current property before they moved in. Finally, 17% of those surveyed in the follow-up couldn't remember if they saw the EPC of their current accommodation. This share was +9% higher than the one in the baseline and the increase is statistically significant (z=-2.920, p=0.004).

Twenty-eight percent of the follow-up respondents from **Lithuania** had seen the EPC of their current accommodation before moved in (was 24% in the baseline). Forty-eight percent of the follow-up respondents answered negatively in this question (-1% decrease from the baseline survey). Moreover, in the follow-up survey, 24% of respondents, as opposed to 27% in the baseline, couldn't remember if they had seen it or not. No statistically significant differences between the baseline and follow-up survey proportions were observed.

Twenty-three percent of follow-up respondents in **Romania**, as opposed to 27% in the baseline, saw the EPC of their current accommodation before they moved in. Furthermore, 58% of follow-up respondents, as opposed to 53% in the baseline, did not see it before they moved in. Finally, 19% of the follow-up respondents (21% in the baseline) couldn't remember seeing the EPC before they moved in their current property. None of the differences was statistically significant.

In the **UK**, in the follow-up survey, 48% of the respondents (45% in the baseline) saw the EPC of their current property before they moved in. On the other hand, 33% of the follow-up respondents (35% in the baseline) didn't see the EPC of their current property before moved in. Finally, 19% of those surveyed in the follow-up (20% in the baseline) couldn't remember if they saw the EPC of their current accommodation. None of the differences is statistically significant.

## 3.16 Energy Performance Certificate as a criterion when selecting next accommodation

Respondents were asked if they would take the EPC score into account when selecting their next accommodation. Two proportion z-test was used to determine whether the differences between the baseline and follow-up survey proportions are statistically significant. The results for each country and for the total sample are illustrated in Figure 15 and in Table 47.

In **Bulgaria**, at the beginning of the academic year 75% of the participants stated they would take the EPC score into account when selecting their next accommodation while at the end of the academic year this share was increased to 91% of the respondents.

In **Cyprus**, 82% of those surveyed in the follow-up stated they would take the EPC score into account when selecting their next accommodation however, this share was higher in the baseline survey (87%). Although this decrease is statistically significant ($z=2.338$, $p=0.02$), Cyprus is among the countries with the higher shares of respondents who would take into account the EPC when selecting their next accommodation in both questionnaires. This decrease in those that plan to take the EPC consideration might be a result of the increased demand on the one hand and the limited supply of private student accommodation on the other that made students less selective towards energy efficiency.

In **Romania**, more respondents stated that they would take the EPC score into account when selecting their next accommodation at the end of the academic year (81%) than at the beginning of the academic year (77%).

In **Lithuania**, these shares were 84% and 83%, respectively and in **Ireland** they were 71% and 65%.

In **Greece** 74% of the follow-up respondents would take the EPC score into account when selecting their next accommodation. Also, in the baseline survey, almost the same share of respondents (73%) them would have taken it into account.

In the **UK**, these shares were 60% of the follow-up and 68% of the baseline respondents would take the EPC score into account when selecting their next accommodation. This decrease (-8%) is statistically significant ($z=3.054$, $p=0.002$). As in Cyprus this might be a result of the increased demand on the one hand and the limited supply of private student accommodation on the other that makes students less selective towards energy efficient housing.

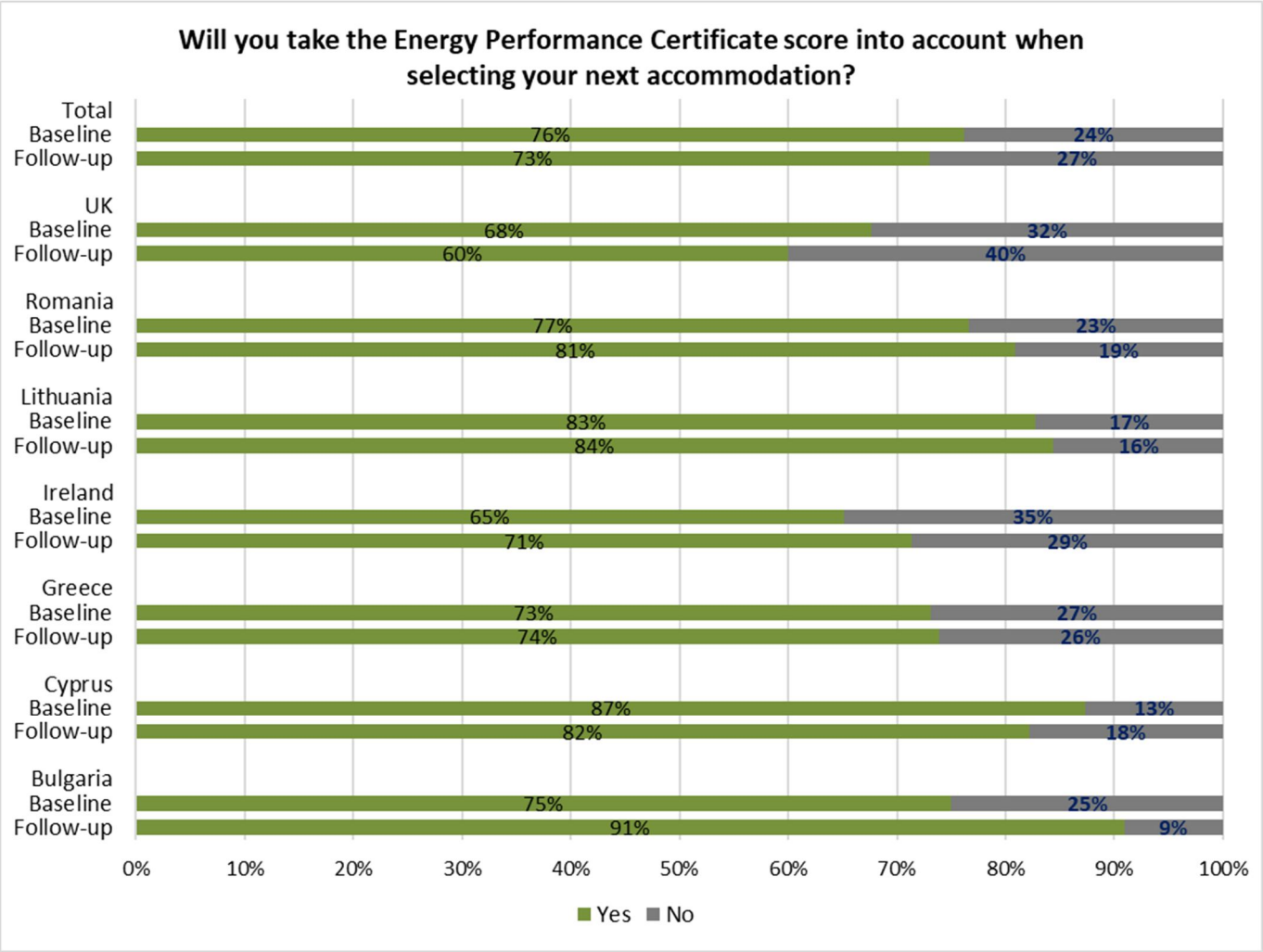


Figure 15 Energy Performance Certificate as a criterion when selecting next accommodation - Total sample and per country

Table 47 Energy Performance Certificate as criterion when selecting next accommodation - Total sample and per country

| Will you take, the EPC score into account when selecting your next accommodation? | | Bulgaria | Cyprus | Greece | Ireland | Lithuania | Romania | UK | Total |
|---|---|---|---|---|---|---|---|---|---|
| Yes | **Follow-up** | 90.9% | 82.1% | 73.8% | 71.3% | 84.4% | 80.9% | 60.0% | 73.0% |
| | **Baseline** | 75.0% | 87.3% | 73.1% | 65.1% | 82.7% | 76.6% | 67.7% | 76.2% |
| | **difference from baseline** | 15.9% | **-5.2%*** | 0.7% | 6.2% | 1.7% | 4.3% | **-7.7%*** | **-3.2%*** |
| No | **Follow-up** | 9.1% | 17.9% | 26.2% | 28.7% | 15.6% | 19.1% | 40.0% | 27.0% |
| | **Baseline** | 25.0% | 12.7% | 26.9% | 34.9% | 17.3% | 23.4% | 32.3% | 23.8% |
| | **difference from baseline** | -15.9% | 5.2% | -0.7% | -6.2% | -1.7% | -4.3% | 7.7% | 3.2% |

*: statistically significant difference

# 4 Comparison of findings with Year #1

The Student Switch Off+ (SSO+) campaign was introduced for the first time in the academic year 2017-18 as a pilot and ran in Cyprus, Greece, Lithuania and the UK. In its second year, (2018-19) the SSO+ campaign was fully deployed in all seven SAVES 2 countries (Bulgaria, Cyprus, Greece, Ireland, Lithuania, Romania and the UK).

At the end of each academic year, the changes of the energy awareness of students over the academic year that could be attributed to the SSO+ campaign are evaluated and the results are used to further tailor the SSO+ campaign at country and at project level.

The findings of the first year's assessment are reported in the report "Quantifying the increase in energy awareness of students living in private accommodation in academic year #1". It is publicly available on the SAVES 2 webpage (https://saves.nus.org.uk/about/documents-and-resources).

## 4.1 Differences in the methodology between Year #1 and Year #2 of the SSO+ campaign

In Year #1 respondents to the follow-up survey were matched with their entry to the baseline survey through their email or name (paired samples). For each participant the change in the responses that they gave to each question in the baseline and follow-up survey was calculated in order to quantitatively determine the level of change over the academic year for each individual rather than the entire sample. In effect, the follow-up survey could only be sent to the students that provided their email in the baseline survey.

In Year #1, the total number of students that participated in the baseline survey was 1,798 and came from Cyprus, Greece, Lithuania and the UK. Out of those respondents, 1,059 provided their email and could therefore be contacted for the follow-up survey. Eventually only 86 respondents of the follow-up survey could be matched to their baseline entry. Obviously, this low participation posed an issue with the robustness of the results. In order to overcome this issue it was decided to follow a different approach in Year #2 that is based on independent baseline and follow-up samples rather than matched samples.

As a result, in Year #2 the sample size considered for the analysis is much bigger thus offering more robustness to the findings and have extra validity to wider generalization. On the other hand in Year #1 there was not a risk of individual differences affecting the results as participants were effectively compared against themselves which is not the case in Year #2.

## 4.2 Analysis of the end of year results (follow-up surveys) – Annual comparison

In Year #2, in order to make the questionnaire more respondent friendly and to deepen our research about students' energy lifestyles, some changes were made to some of the questions. Changes included the introduction of some new questions, the revision of some existing questions or the removal of full questions.

In the following chapters the end of year results as depicted in the follow-up surveys of Year #1 and Year #2 will be compared. For consistency, the comparison between Year #1 and Year #2 will be performed only to the questions that were identical between the two years. The comparison is made only for the follow-up responses of the two academic years and for all countries participating in the surveys each year (2017/18: Cyprus, Greece, Lithuania and the UK; 2018/19: all seven SAVES 2 countries).

As previously noted, the approach followed in Year #1 in which the same study participants were measured before and after an intervention (in this case their exposure to the SSO+ campaign) is different from the approach followed in Year #2 which deals with groups that are not necessarily related. Therefore, due to methodology and sample differences between Year #1 and Year #2, the differences in the findings for the two academic years are not strictly quantitatively. An indicative comparison is performed nonetheless.

### 4.2.1 Perceived level of information about energy issues

Respondents were asked to rate how well informed they felt about a number of issues that involved their energy consumption. Results are on a 1 to 5 scale (1= Very badly informed, 2 = Fairly badly informed, 3 = Neither well or badly informed, 4 = Fairly well informed, 5 = Very well informed). The higher the mean value

(M) the better the respondents are informed. A low standard deviation (SD) indicates that the given answers tend to be close to the mean value, while a high standard deviation indicates that the given answers are spread out over a wider range of values.

Independent samples t-test was used to determine whether the differences in mean values between Year#1 and Year#2 end of year surveys are statistically significant for each of the two groups. P-values smaller than 0.05 indicate statistically significant results. In Table 48 mean values and standard deviation are presented for Year#1 and Year#2 respectively for the total sample of respondents.

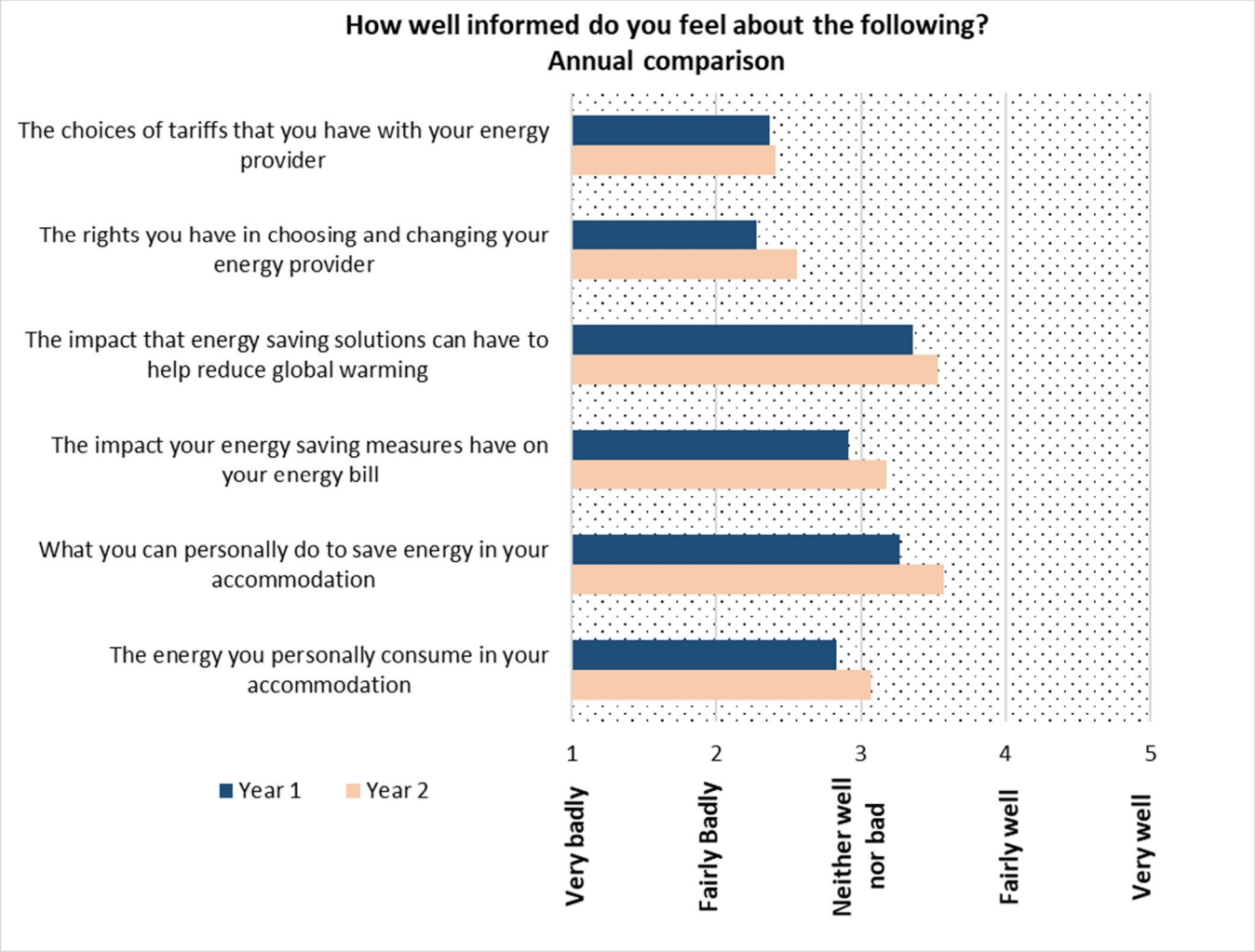


**Figure 16 Mean values of perceived level of information on energy consumption in Year #1 and Year #2 (follow-up surveys) - Total samples**

Overall, the level of information that respondents had in all topics increased in Year #2 (Table 48). The increase is statistically significant in the following items:

- "The energy you personally consume in your accommodation", +8% increase from Year#1, (*t(2917)=1.934, p=0.053*)
- "What you can personally do to save energy in your accommodation", +9% increase from Year#1 (*t(2913)=2.661, p=0.008*)
- "The impact your energy saving measures have on your energy bill", +9% increase from Year#1 (*t(2913)=2.124, p=0.034*)
- "The rights you have in choosing and changing your energy provider", +12% increase from Year#1 (*t(2911)=2.111, p=0.035*)

Table 48 Changes in perceived level of information about energy issues between Year #1 and Year #2 (follow-up surveys). Mean values and their percentage ( %) change - Total samples

| Energy issues | Year #1 Follow-up | | Year #2 Follow-up | | % change in mean value | p value |
|---|---|---|---|---|---|---|
| | mean | SD | mean | SD | | |
| **The energy you personally consume in your accommodation** | 2.83 | 1.26 | 3.07 | 1.13 | **8%*** | 0.053 |
| **What you can personally do to save energy in your accommodation** | 3.27 | 1.03 | 3.57 | 1.03 | **9%*** | 0.008 |
| **The impact your energy saving measures have on your energy bill** | 2.91 | 1.20 | 3.18 | 1.16 | **9%*** | 0.034 |
| **The impact that energy saving solutions can have to help reduce global warming** | 3.36 | 1.24 | 3.53 | 1.14 | 5% | 0.174 |
| **The rights you have in choosing and changing your energy provider** | 2.28 | 1.26 | 2.56 | 1.21 | **12%*** | 0.035 |
| **The choices of tariffs that you have with your energy provider** | 2.37 | 1.16 | 2.41 | 1.17 | 2% | 0.755 |

*: statistically significant difference

### 4.2.2 Actions taken to reduce the energy costs – Annual comparison

Respondents were asked which of the mentioned targeted actions, if any, they had taken whilst in their current accommodation in order to reduce the cost of their energy bills. Two proportion z-test was used to determine whether the differences between Year #1 and Year #2 follow-up survey proportions are statistically significant. The results are presented in Table 49.

No statistically significant differences are observed except to the share of respondents (12% less in Year 2) that approached their landlord to buy more energy efficient appliances, or bought some themselves (z=3.454, p<0.001).

The differences found between Year #1 and Year #2 for the other options were not statistically significant. In the following table (Table 49) the differences for each item are presented. In fact a smaller or equal proportion of respondents selected each of the actions in Year #2.

Table 49 Actions taken by respondents to reduce their energy costs whilst in their current accommodation in Year #1 and Year #2 (follow-up surveys)- Total samples

| Actions taken to reduce energy costs | Year #1 Follow-up | Year #2 Follow-up | Difference from Year #1 |
|---|---|---|---|
| **Approached landlord to buy more energy efficient appliances, or bought some myself** | 23% | 11% | **-12%*** |
| **Approached landlord to improve insulation or heating system** | 12% | 10% | -2% |
| **Switch supplier or tariff in the last 6 months** | 13% | 8% | -5% |
| **Got a smart meter** | 15% | 10% | -5% |
| **Used a smart meter to identify energy wastage** | 6%† | 6% | 0% |
| **Taken actions to reduce my energy usage** | 57% | 50% | -7% |
| **Worn outdoor wear (e.g. hat/ scarf /coat/ gloves) or more clothes to keep warm in your home** | 53% | 49% | -4% |
| **None of these** | 16% | 24% | -8% |

† conditions not fulfilled for a statistical test
*: statistically significant difference

Note: The conditions required for the differences of the two population proportions to be tested are not fulfilled for the option "Used a smart meter to identify energy wastage.". For meaningful results, the statistical test for

two proportions requires at least 10 successes (selecting a given option) and ten failures ( not selecting a given option) per sample which is not fulfilled due to the low number of those answered this question in Year #1.

### 4.2.3 Feelings about saving energy- Annual comparison

Respondents were asked to describe from a targeted list of words their feelings about saving energy. Two proportion z-test was used to determine whether the differences between Year #1 and Year #2 follow-up survey proportions are statistically significant.

In Year #2, the share of respondents having positive feelings about saving energy (content, proud, optimistic) has increased, while the share of those having negative feelings (anxious and frustrated) had decreased. The increase in those feeling guilty could be due to the increased levels of awareness on energy conservation in Year #2 that could be causing a sense that they are not doing as much as they could.

The biggest proportion of the follow-up respondents feel more optimistic (20%) and content (20%) about saving energy. The biggest differences, which are also statistically significant, compared to Year #1 are the following:

- Content. +8% in Year #2 (z=2.230, p=0.03)
- Frustrated. -8% in Year #2 (z=9.862, p<0.001)
- Guilty. +16% in Year #2 (z=2.659, p=0.01).

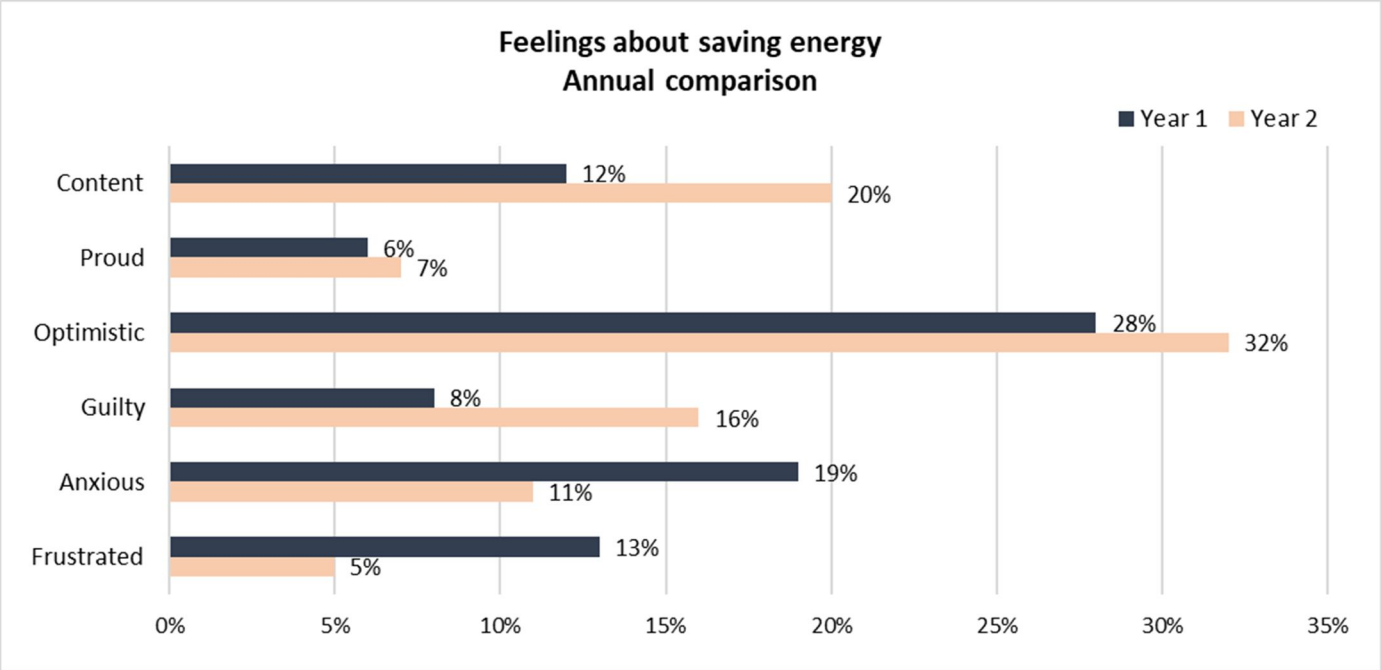


Figure 17 Feelings about saving energy by the end of Year #1 and Year #2 (follow-up surveys) - Total samples

Table 50 Respondents feelings about saving energy by the end of Year #1 and Year #2 (follow-up surveys)- Total samples

| Feelings about saving energy | Year #1 Follow-up | Year #2 Follow-up | Difference from Year #1 |
|---|---|---|---|
| **Content** | 12% | 20% | **+8%*** |
| **Proud** | 6% | 7% | +1% |
| **Optimistic** | 28% | 32% | +4% |
| **Guilty** | 8% | 16% | **+16%*** |
| **Anxious** | 19% | 11% | -8% |
| **Frustrated** | 13% | 5% | **-8%*** |

*: statistically significant difference

### 4.2.4 Behavioral antecedents – Annual comparison

Respondents were asked about the level of agreement, if at all, with given statements with respect to energy saving and energy usage. Results are presented in Table 51 and in Figure 18 for the total number of respondents. Results are on a 1 to 5 scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree). Mean values (M) over 3.5 indicate agreement with the statement. A low standard deviation (SD) indicates that the given answers tend to be close to the mean value, while a high standard deviation indicates that the given answers are spread out over a wider range of values.

Independent samples t-test was used to determine whether the differences in mean values between Year #1 and Year #2 follow-up surveys are statistically significant. P-values smaller than 0.05 indicate statistically significant results.

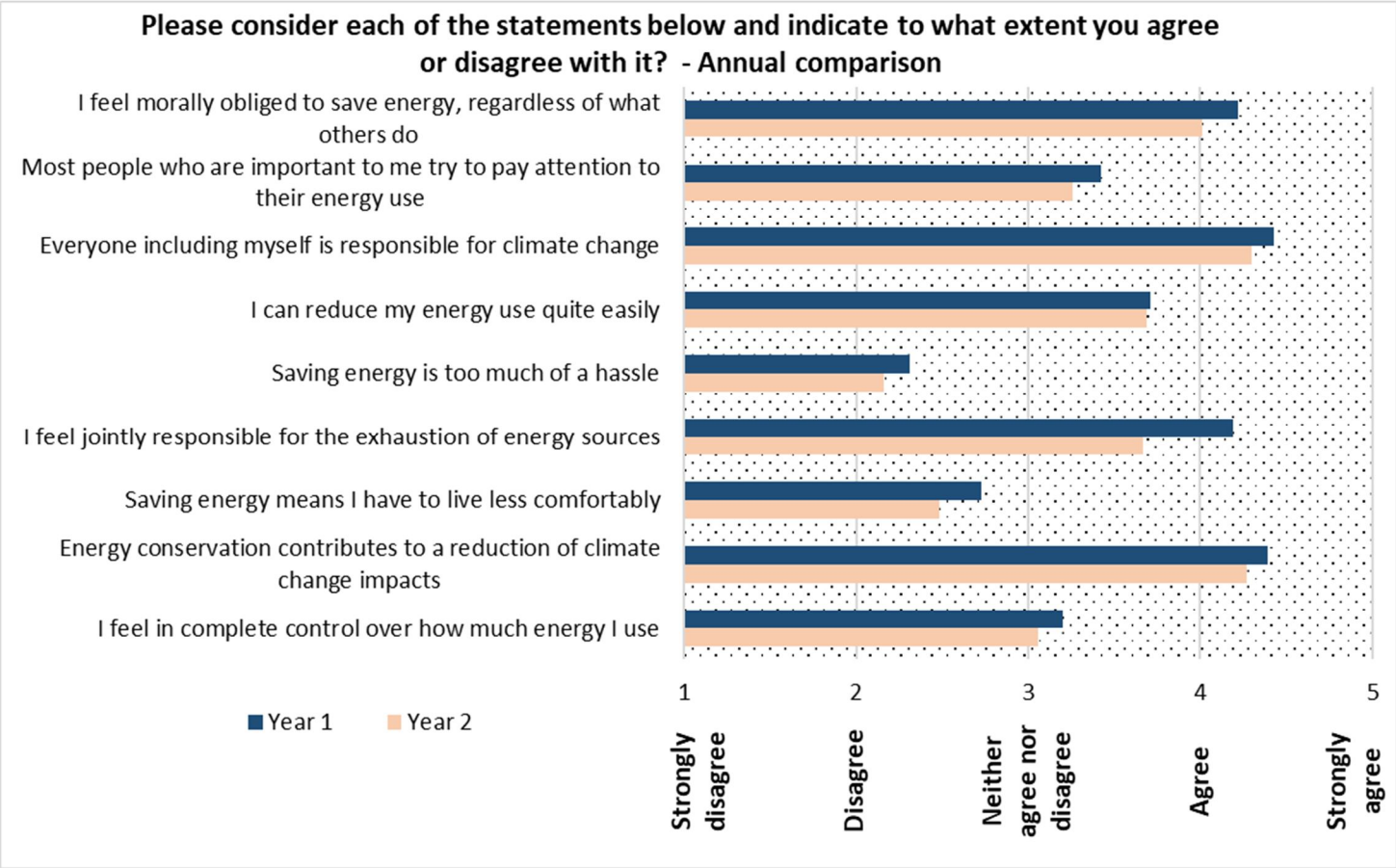


Figure 18 of Behavioral antecedents in Year #1 and Year #2 (follow-up surveys) - Total samples

In Year #1 a higher level of agreement is observed for all listed items (Figure 18). The differences in mean values are statistically significant for three of these items (Table 51):

- I feel morally obliged to save energy regardless of what others do. -5% in Year #2 mean value (*t(2771)=-2.262, p=0.02*)
- Saving energy means I have to live less comfortably. -9% in Year #2 mean value (*t(2775)=-2.396, p=0.02*).
- I feel jointly responsible for the exhaustion of energy sources. -12% in Year #2 mean value (*t(2778)=-5.050, p<0.001*).

It should be noted that the decrease of –9% in Year #2 with regard to "Saving energy means I have to live less comfortably" has a positive meaning as it means that in Year #2 respondents think less that saving energy means that they have live less comfortably.

Table 51 Mean values and standard deviations of behavioral antecedents by the end of Year #1 and Year #2 (follow-up surveys)- Total samples

| Behavioral antecedents | Year #1 Follow-up | | Year #2 Follow-up | | % change in mean value | p value |
|---|---|---|---|---|---|---|
| | mean | SD | mean | SD | | |
| **I feel in complete control over how much energy I use** | 3.2 | 0.91 | 3.06 | 0.96 | -4% | 0.183 |
| **Energy conservation contributes to a reduction of climate change impacts** | 4.39 | 0.71 | 4.27 | 0.74 | -3% | 0.138 |
| **Saving energy means I have to live less comfortably** | 2.73 | 1.03 | 2.48 | 0.95 | **-9%*** | 0.017 |
| **I feel jointly responsible for the exhaustion of energy sources** | 4.19 | 0.94 | 3.67 | 0.94 | **-12%*** | 0.000 |
| **Saving energy is too much of a hassle** | 2.31 | 0.8 | 2.16 | 0.88 | -6% | 0.119 |
| **I can reduce my energy use quite easily** | 3.71 | 0.85 | 3.69 | 0.83 | -1% | 0.826 |
| **Everyone including myself is responsible for climate change** | 4.43 | 0.7 | 4.3 | 0.84 | -3% | 0.156 |
| **Most people who are important to me try to pay attention to their energy use** | 3.42 | 0.93 | 3.26 | 0.95 | -5% | 0.124 |
| **I feel morally obliged to save energy, regardless of what others do** | 4.22 | 0.77 | 4.01 | 0.85 | **-5%*** | 0.024 |

*: statistically significant difference

### 4.2.5 Important criteria when choosing home appliances – Annual comparison

Respondents were asked to select the three most important criteria when choosing home appliances from a list provided to them. Two proportion z-test was used to determine whether the differences between Year #1 and Year #2 follow-up survey proportions are statistically significant. Findings are summarized in Figure 19 and presented in more detail in Table 52.

Overall, in Year #1, 92% of those surveyed stated that "Cost of appliance" was among their three most important criteria when choosing home appliances followed by "Functionality of the appliance" (77%) and "Energy efficiency and /or energy certification score of the appliance" (63%). In Year #1, "Cost of appliance" was the most important criterion for 55% of the respondents, "Functionality of the appliance" was the most important criterion for 18% of the respondents and ""Energy efficiency and /or energy certification score of the appliance" was the most important criterion for 18% of the participants.

In Year #2, 90% of the respondents stated that "Cost of the appliance" was among their three most important criteria followed by "Functionality of the appliance" (76%) and "Energy efficiency and /or energy certification score of the appliance" (54%). In Year #2, "Cost of appliance" was the most important criterion for 37% of the respondents, "Functionality of the appliance" was the most important criterion for 24% of the respondents and "Energy efficiency and /or energy certification score of the appliance" was the most important criterion for 17% of the participants.

Only one statistically significant difference in proportions is observed with regard to respondents' first choice of ranking (rank 1). This involves a 17% reduction in the share of respondents in Year #2 choosing cost of appliance as a criterion for selecting appliances (z=-1.981, p=0.047). Regardless of the large reduction, the cost of the appliance remains the primary criterion for selection appliances in both Year #1 and Year #2.

Table 52 Important criteria when choosing home appliances in Year #1 and Year #2 (follow-up surveys) - Total samples

| Criteria when choosing home appliances | | RANK 1 | RANK 2 | RANK 3 |
|---|---|---|---|---|
| Cost of appliance | **Year #2** | 37.3% | 32.3% | 21.4% |
| | **Year #1** | 54.5% | 22.7% | 13.6% |
| | **difference from Year #1** | **-17.2%*** | 9.6% | 7.8% |

| Criteria when choosing home appliances | | RANK 1 | RANK 2 | RANK 3 |
|---|---|---|---|---|
| Energy efficiency and/or energy certification score of the appliance | **Year #2** | 16.5% | 16.9% | 19.9% |
| | **Year #1** | 18.2% | 27.3% | 18.2% |
| | **difference from Year #1** | -1.7% | -10.4% | 1.7% |
| Ease of use of the appliance | **Year #2** | 9.1% | 13.2% | 18.8% |
| | **Year #1** | 4.5% | 18.2% | 13.6% |
| | **difference from Year #1** | 4.6% | -5% | 5.2% |
| Functionality of the appliance | **Year #2** | 24% | 26.9% | 25.4% |
| | **Year #1** | 18.2% | 22.7% | 36.4% |
| | **difference from Year #1** | 5.8% | 4.2% | -11% |
| Aesthetical appearance of the appliance | **Year #2** | 6.4% | 5.4% | 7.1% |
| | **Year #1** | 4.5% | 0% | 4.5% |
| | **difference from Year #1** | 1.9% | 5.4% | 2.6% |
| Brand of the appliance | **Year #2** | 6.6% | 5.2% | 7.4% |
| | **Year #1** | 0% | 9.1% | 9.1% |
| | **difference from Year #1** | 6.6% | -3.9% | -1.7% |

*: statistically significant difference

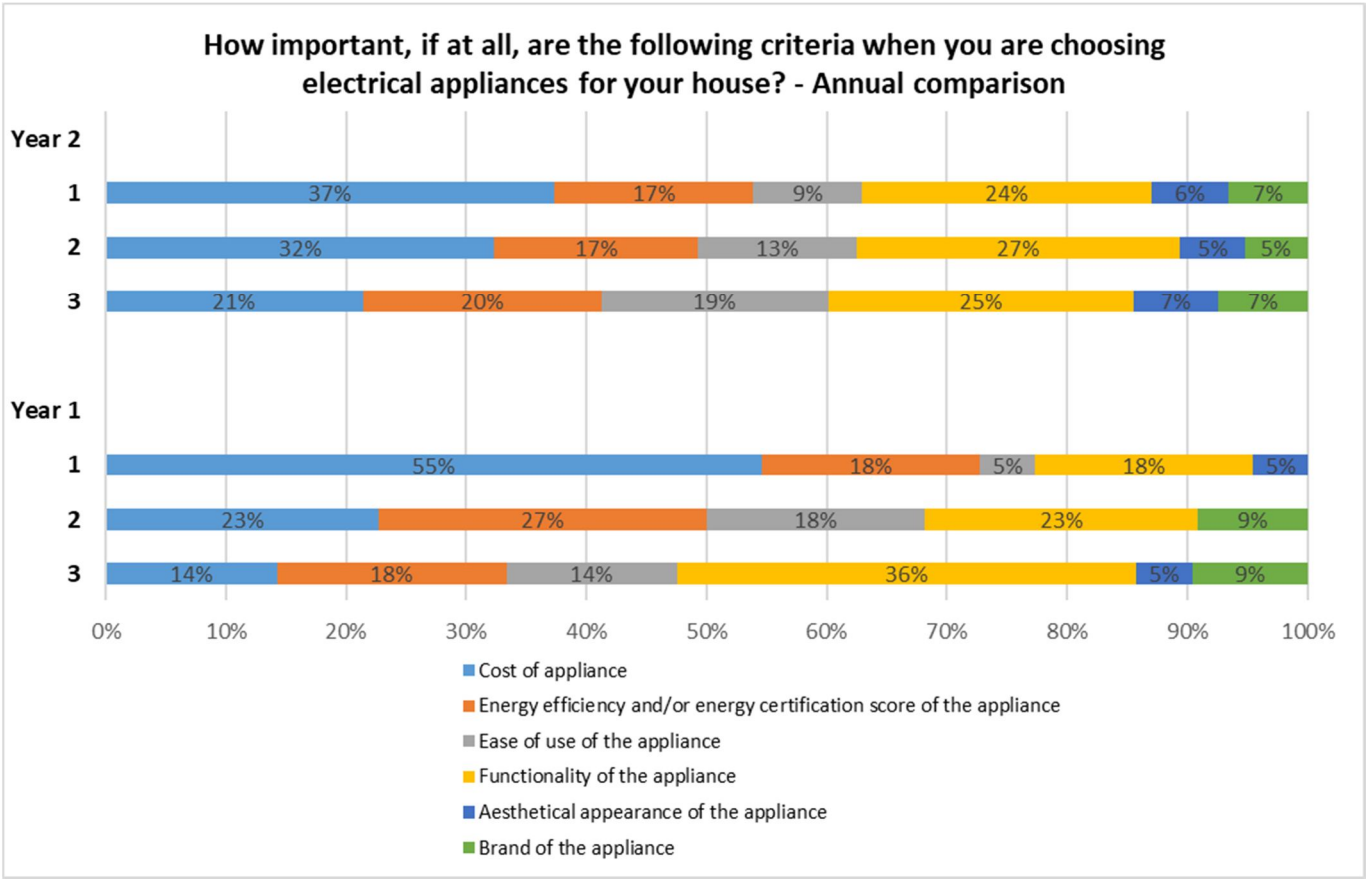


**Figure 19 Importance of criteria when choosing electrical appliances in Year #1 and Year #2 (follow-up surveys) - Total samples**

### 4.2.6 Smart meters – Annual comparison

Respondents, were first asked if they had heard of smart meters before. Those that had heard of smart meters before were also asked if they had a smart meter in their current accommodation. Two proportion z-test was used to determine whether the differences between Year #1 and Year#2 follow-up survey proportions are statistically significant. The results are presented in Table 53.

**Table 53 Share of respondents aware of smart meters by the end of Year #1 and Year #2 (follow-up surveys) - Total samples**

| Have you heard of smart meters before? | Year #1 Follow-up | Year #2 Follow-up | Difference from Year #1 |
|---|---|---|---|
| **Yes** | 60.5% | 49% | **-11.5%*** |

*: statistically significant difference

In Year #2 the share of respondents that had heard of smart meters before is 11.5% lower than those that had heard of them in Year #1. This difference is also statistically significant (z=-2.101, p=0.036).

The respondents that answered "Yes" to the previous question were then asked if they had a smart meter in their current accommodation. The results are presented in Table 54.

In Year #2 a smaller proportion of respondents had a smart meter. Namely, 17% less respondents had a smart meter (z=-3.089, p=0.002) and 13% more did not have one (z=2.059, p=0.039). However, in Year #2, 4% more respondents (38% in Year #2) would like to have a smart meter.

**Table 54 Presence of smart meters in respondents' accommodation by the end of Year #1 and Year #2 (follow-up surveys) - Total samples**

| Do you have a smart meter in your current accommodation? | Year #1 Follow-up | Year #2 Follow-up | Difference from Year #1 |
|---|---|---|---|
| **Yes** | 40% | 23.3% | **-16.7%*** |
| **No** | 20% | 32.7% | **12.7%*** |
| **No, but I would like to have one** | 34.3% | 38% | 3.7% |
| **Don't know** | 5.7% | 6% | 0.3% |

*: statistically significant difference

Consequently, respondents were asked about the level of agreement, if at all, with given statements with respect to smart meters. This question was not applicable to participants who replied negatively to the question "Have you heard of smart meters before". Results are presented in Table 55 on a 1 to 5 scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree). Mean values over 3.5 indicate agreement with the statement. A low standard deviation (SD) indicates that the given answers tend to be close to the mean value, while a high standard deviation indicates that the given answers are spread out over a wider range of values. Independent samples t-test was used to determine whether the differences in mean values between the baseline and follow-up survey are statistically significant. P-values smaller than 0.05 indicate statistical significant results.

Only small differences were observed in respondents opinions about smart meters over the two years and they remain very positive in both. Decreases are observed in the level of agreement with "Smart meters make my energy easy to understand and control" (-1% in mean value in Year #2) and "Smart meters make life easier by taking away the hassle of meter reads and estimated bills" (-5% in mean value in Year #2) while an increase is observed in the level of agreement with "Smart meters can help me to save money on my energy bills" (+1% in mean value in Year #2). None of the differences is statistically significant.

Table 55 Mean values and standard deviations of opinions about smart meters in Year #1 and Year #2 (follow-up surveys) - Total sample

| Shared opinions about smart meters: | Year #1 Follow-up | | Year #2 Follow-up | | % change in mean value | p value |
|---|---|---|---|---|---|---|
| | mean | SD | mean | SD | | |
| **Smart meters can help me to save money on my energy bills** | 4 | 0.87 | 4.04 | 0.82 | 1% | 0.776 |
| **Smart meters make my energy easy to understand and control** | 4 | 0.7 | 3.96 | 0.78 | -1% | 0.764 |
| **Smart meters make life easier by taking away the hassle of meter reads and estimated bills** | 4.17 | 0.86 | 3.95 | 0.81 | -5% | 0.114 |

### 4.2.7 Energy Performance Certificate – Annual comparison

Respondents were asked if they had heard of energy performance certificates (EPC) before. The results are presented in Table 56. Consequently, respondents were asked if they will take the EPC score into account when selecting their next accommodation. The results are presented in Table 57.

Two proportion z-test was used to determine whether the differences between Year #1 and Year #2 end of year survey proportions are statistically significant.

Table 56 Share of respondents aware of the Energy Performance Certificate by the end of Year #1 and Year #2 (follow-up surveys) -Total samples

| Have you heard of an Energy Performance Certificate (EPC) before? | Year #1 Follow-up | Year #2 Follow-up | Difference from Year #1 |
|---|---|---|---|
| **Yes** | 80% | 51% | **-29%*** |

*: statistically significant difference

The difference in the proportion of respondents that have heard of EPCs in Year #1 and Year #2 is large (29% less respondents heard about EPCs in Year #2) and statistically significant ($z=-5.404$, $p<0.001$). However, this high difference is mainly attributed to the different approaches followed in methodology between these years. As previously noted, the approach followed in Year #1 in which the same study participants were measured before and after an intervention (in this case their exposure to the SSO+ campaign) is different from the approach followed in Year #2 which deals with unrelated groups. In Year #1 there was not a risk of individual differences affecting the results as participants were effectively comparing against themselves which is not the case in Year #2.

Table 57 Energy Performance Certificate as a criterion when selecting next accommodation in Year #1 and Year #2 (follow-up surveys)- Total samples

| Will you take, the Energy Performance Certificate score into account when selecting your next accommodation? | Year #1 Follow-up | Year #2 Follow-up | Difference from Year #1 |
|---|---|---|---|
| **Yes** | 94%† | 73% | -21% |
| **No** | 6%† | 27% | 21% |

† conditions not fulfilled for a statistical test

The conditions required for the differences of the two population proportions to be tested are not fulfilled for the question "Will you take the Energy Performance Certificate score into account when selecting your next accommodation". For meaningful results, the statistical test for two proportions requires at least 10 successes ("Yes") and ten failures ("No") per sample which is not fulfilled due to the low number of those answered this question in Year #1. This low number of answers given in this question in Year #1 confirms that the shares recorded may lack external validity for wider generalization which is not the case in Year #2.

# 5 Discussion and Conclusions

The impact of the SSO+ campaign on students living in private accommodation was evaluated through the level of increased energy awareness; namely on smart meters and on housing choices that can minimize exposure to fuel poverty. Changes in the awareness levels of students were evaluated through pre- (baseline) and post-intervention (follow-up) questionnaire surveys.

5,975 students from seven EU countries (Bulgaria, Cyprus, Greece, Ireland, Lithuania, Romania and the UK) that lived in private accommodation and answered at least one SSO+ specific question were considered in the analysis. Two thousand eight hundred and sixty five (2,865) of these students were considered for the baseline survey analysis and three thousand one hundred and ten (3,110) for the follow-up survey.

The Student Switch Off+ (SSO+) campaign provided information and advice on energy saving to students who lived in private accommodation. Information involved tips for saving energy at home, energy performance certificates, energy efficiency and smart energy meters. Evidence of the research presented in this report suggests that a good proportion of students retained many of the messages of the campaign.

**Familiarization with the SSO+ campaign**
At the end of the academic year a higher share of respondents (+6%) had heard about the SSO+ campaign compared to the beginning of the academic year ($z=-4.358$, $p< .00001$). The share of respondents that had heard of the SSO+ survey was 41% in the follow-up survey and 36% in the baseline. At the end of the academic year, statistically significant increased proportions of students from Cyprus (+21%), Greece (+10%), Ireland (+7%) and Lithuania (+6%) had heard of the SSO+ campaign compared to the beginning of the academic year.

**Sources of information about the SSO+ campaign**
At the end of the academic year the most popular sources of information about the SSO+ campaign were emails (58%), posters (39%) and social media (39%). On the contrary only 10% of those surveyed reported they had heard about the SSO+ campaign from a friend, 7% from a classmate and 4% from seminars. The sources of information with the most important positive difference over the academic year were emails (+8%) and social media (+6%).

The study also showed that posters (-6% decrease from baseline survey), seminars (-2%), classmates (-2%) and friends (-1%) were the least popular sources of SSO+ information in both surveys and their popularity decreased further over the year. The decrease observed in "posters" is also statistically significant.

**Influence of SSO+ campaign**
Overall, 68% of the follow-up respondents were influenced by SSO+ in a positive way. The SSO+ campaign helped most of the respondents in both the baseline (41%) and the follow-up survey (35%) to reduce their energy costs. In addition, in the follow-up survey a slightly higher proportion of respondents (+1%) was aware of energy performance certificates and of smart meters as a result of the SSO+ campaign. The share of respondents who stated that the SSO+ campaign helped them to select energy-efficient house appliances stayed the same through the academic year (8%).

**Perceived level of information**
Overall, respondents of both surveys felt rather neutrally informed about the energy they personally consume in their home, about the impact their energy saving measures have on their energy bill and about the impact of cold homes on their health and wellbeing. Respondents' perceived level of information about the impact that energy saving solutions can have to help reduce global warming and about what they can do to personally save energy in their accommodation was rather positive, while improvements could be made to the level of information about their tariff choices and rights for choosing and changing their energy provider.

Significant differences in the level of information of students over the academic year were observed in the impact of cold homes on respondents' health (+3% increase in follow-up mean value), in how much respondents personally consume in their accommodation (-2% decrease in follow-up mean value) and in the impact their energy saving measures have on their energy bills (-2% decrease in follow-up mean value).

**Habits and practices**
The frequency that any energy habit or action was taken did not change drastically over the academic year. The actions taken more frequently at the end of the academic year were: "Switched off lights and appliances when not in use", "Only wash clothes when you have a full load" and "Allow food to cool down before putting it to fridge". Actions taken less frequently were: "Leave the heating on when you go out for a few hours", "Defrost the fridge frequently" and "Leave your PC or TV on standby for long periods of time at home".

A statistically significant increase compared to the beginning of the academic year was observed in the frequency that the total sample of respondents only washed clothes when they have a full load (+2%) and left their PC or TV on standby for long periods of time at home (+3%).

In addition, the findings of the follow-up survey revealed some practices that respondents from different countries have in common. According to the follow-up survey, the most frequent action respondents from Bulgaria, Greece, Ireland and the UK undertake, is to wash their clothes only when they have a full load whereas in Cyprus and Lithuania is to switch off lights and appliances when not in use. On the other hand, respondents from Cyprus, Greece, Ireland and Lithuania, rarely leave the heating on when they go out for a few hours.

**Actions taken to reduce energy costs**
The most popular responses in both surveys (~50% of respondents) are "Took actions to reduce my energy usage" and "Worn outdoor wear (e.g. hat/scarf/coat/gloves) or more clothes to keep the heating down in your home" (Figure 6). A small increase (+1%) is observed in the proportion of respondents taking action to reduce their energy usage at the end of the academic year compared to the beginning. A slightly bigger increase is noted for those wearing outdoor wear or more layers to keep the heating down (+2.5%). The decrease (-3%) in the share of respondents who approached their landlord to buy more energy efficient appliances or bought some themselves ($z=3.085$, $p=0.002$) is statistically significant.

The biggest share of follow-up respondents in Bulgaria (80%) Cyprus (45%) Lithuania (31%) and Romania (36%) reduced their energy costs by reducing their energy usage (**Error! Reference source not found.**). In Greece (44%), Ireland (54%), and the UK (69%) the most popular action in the follow-up survey was wearing outdoor wear or more clothes to keep warm in their home. These actions were also the most frequently occurring response at the beginning of the academic year.

**Feelings about saving energy**
In both surveys, the highest share of respondents felt optimistic about energy saving; this share (32%) remained unchanged in the two surveys. The second most popular feeling in both surveys was the feeling of contentment (baseline 23%; follow-up: 20%) suggesting that overall students have positive feelings towards saving energy.

By the end of the academic year, a statistically significant increase of +4% was observed in the share of respondents who felt guilty about saving energy. In addition, a statistically significant decrease of-3% was observed in the share of respondents who felt content about saving energy. Both of these feelings could be a result of students being more aware of the environmental impacts of energy use and of ways to save energy thus expecting more from themselves.

At the end of the academic year, 69% of those surveyed in Cyprus, 60% of those questioned in Lithuania, 51% of the Irish respondents, 53% of the participants from the UK as well as 65% and 77% of those questioned in Greece and in Romania respectively, described their feelings about saving energy in a positive manner [Optimistic, Proud, Content].

Furthermore, in Cyprus, Greece and Ireland (32% respectively), Lithuania (41%) Romania (46%) and the UK (27%) the biggest share of follow-up respondents felt optimistic about saving energy. The most popular response describing respondents' feelings at the end of the academic year, in Bulgaria (30%) was contentment. On the other hand, the word "Proud" was the least selected in Bulgaria (5%), Ireland (8%) and Lithuania (2%) while In Cyprus (2%), Greece (3%), Romania (1%) and the UK (8%) "Frustrated" was the least selected option.

**Behavioral antecedents**
Respondents in both surveys agreed that: a) energy conservation contributes to a reduction of climate change impacts, b) everyone including their self is responsible for climate change, and c) they feel morally obliged to save energy, regardless of what others do. Furthermore, in all countries respondents disagreed more rather than agreed that "saving energy is too much of a hassle".

In addition, statistically significant differences in agreement levels were found for the following statements:

- I feel morally obliged to save energy regardless of what others do (+1% increase in mean value in follow-up).
- I believe that everyone including myself is responsible for climate change (+1% increase in mean value in follow-up).
- I feel in complete control over how much energy I use (-3% decrease in mean value in follow-up).

In Bulgaria, Ireland, Romania and the UK, respondents agreed the most on that "everyone including myself is responsible for climate change". In Greece and Cyprus, respondents agreed the most that "energy conservation contributes to a reduction of climate change impacts". In Lithuania respondents agreed the most with the statement "I feel jointly responsible for the exhaustion of energy sources". Furthermore, in all individual countries respondents disagreed with the statement that "saving energy is too much of a hassle''

**Important criteria when choosing appliances**
The top three criteria for choosing appliances were the same in both the baseline and the follow-up survey. Those were: 1st "Cost of appliance", 2nd "Functionality of the appliance" and 3rd "Energy efficiency and /or energy certification score of the appliance". The proportion of respondents that would choose an appliance based on its "energy efficiency and /or energy certification score" was slightly increased by +1% at the end of the academic year.

In all individual countries except for Romania the most important criterion when choosing appliances was the cost of the appliance. Surprisingly, in Romania "energy efficiency and /or energy certification score of the appliance" was the most important criterion when choosing electrical appliances in both surveys.

**Smart meters**
At the beginning of the academic year, less than half of the respondents (42% of the total sample) had heard of smart meters before. At the end of the academic year this share was +7 higher and this increase was in fact statistically significant. A very encouraging finding is that the follow-up shares of those aware of smart meters are higher than in baseline in all countries. The highest share of follow-up respondents who had heard of smart meters before was recorded in the UK (84%). This share is increased by +4% compared to the baseline survey.

In the baseline survey, almost a quarter of the respondents (24%) who stated that they had heard of smart meters before, had a smart meter in their accommodation at that time and 35% more would like to have one. Another 10% didn't know if they had a smart meter installed in their house. In the follow-up survey the share of those surveyed that had a smart meter in their accommodation (23%) is very similar to that of the baseline survey but a higher share of respondents (+3%) would like to have one. Eventually, the share of those who didn't know if they have a smart meter in their current accommodation reduced by 4% in what was a statistically significant difference.

Overall, respondents in both the baseline and in the follow-up survey had positive opinions about smart meters. These opinions remained unchanged over the academic year. In fact in all countries, respondents in both surveys agreed with the four positive statements:

- Smart meters are an efficient way of monitoring the energy consumption of my house in real time
- Smart meters can help me to save money on my energy bills
- Smart meters make my energy easy to understand and control
- Smart meters make life easier by taking away the hassle of meter reads and estimated bills

and disagreed with the one negative statement:

- Smart meters are an invasion of privacy.

**Energy Performance Certificate**
In the baseline survey, less than half of the respondents (46% of baseline respondents) had heard of an EPC before. At the end of the academic year this share was +5% higher (51% of follow-up respondents). This

increase was in fact statistically significant. In all countries except for Cyprus the share of respondents that new about EPC's was higher at the end of the academic year. The increase was statistically significant in Greece, Romania and the UK.

In the follow-up survey the share of those surveyed that saw the EPC of their current accommodation before moved in was 29%. This share was increased by +3% compared to the baseline survey and the increase was statistically significant. Furthermore, 51% of the participants in the follow-up survey, had not seen the EPC of their current property (same as in baseline) whereas 20% stated (3% less than the baseline) could not remember if they had seen the EPC of their property or not.

Finally, in most countries, the percentage of respondents who will consider the EPC when selecting their next accommodation is encouraging. More than 70% of the respondents in each country except in the UK, who had heard of the EPC before, stated that they will take the EPC into account when selecting their next accommodation. In Bulgaria, Greece, Ireland, Lithuania and Romania a higher share of follow-up respondents would take the EPC score into account when selecting their next accommodation while in the UK and Cyprus this share is decreased by 8% and 5% respectively compared to the baseline survey. In this case, the SSO+ campaign can have a positive impact by providing more targeted information on the benefits of EPCs to students.

**Year #2 compared to Year #1**
In order to overcome the issue with the very low sample a different approach was followed this academic year; instead of a matched baseline and follow-up sample, independent samples were used instead. Although the results are not strictly comparable an indicative comparison is performed nonetheless.

The level of information respondents felt they had about their energy consumption is higher in the second academic year. The increase is statistically significant in the following items:

- The energy respondents personally consume in their accommodation (+8%)
- What they can personally do to save energy in their accommodation (+9%)
- The impact their energy saving measures have on their energy bill (+9%)
- The rights they have in choosing and changing their energy provider (+12%)

In Year #2, the share of respondents having positive feelings about saving energy (content, proud, optimistic) has increased, while the share of those having negative feelings (anxious and frustrated) had decreased. The increase in those feeling guilty could be due to the increased levels of awareness on energy conservation in Year #2 that could be causing a sense that they are not doing as much as they could. The biggest differences compared to Year #1, which are also statistically significant, are: Content (+8%), frustrated (-8%) and guilty (+16%).

In Year #1 a higher level of agreement is observed for all listed items of behavioral antecedents (1 to 5 scale; 1 = Strongly disagree - 5 = Strongly agree). The differences are statistically significant for three of these items:

- I feel morally obliged to save energy regardless of what others do (-5% in Year #2 mean value)
- Saving energy means I have to live less comfortably (-9% in Year #2 mean value)
- I feel jointly responsible for the exhaustion of energy sources (-12% in Year #2 mean value)

The decrease of –9% in Year #2 with regard to "Saving energy means I have to live less comfortably" has a positive meaning as it means that in Year #2 respondents think less that saving energy means that they have live less comfortably.

Overall, in Year #1, 92% of those surveyed stated that "Cost of appliance" was among their three most important criteria when choosing home appliances followed by "Functionality of the appliance" (77%) and "Energy efficiency and /or energy certification score of the appliance" (63%). In Year #1, "Cost of appliance" was the most important criterion for 55% of the respondents, "Functionality of the appliance" was the most important criterion for 18% of the respondents and ""Energy efficiency and /or energy certification score of the appliance" was the most important criterion for 18% of the participants.

In Year #2, 90% of the respondents stated that "Cost of the appliance" was among their three most important criteria followed by "Functionality of the appliance" (76%) and "Energy efficiency and /or energy certification

score of the appliance" (54%). In Year #2, "Cost of appliance" was the most important criterion for 37% of the respondents, "Functionality of the appliance" was the most important criterion for 24% of the respondents and "Energy efficiency and /or energy certification score of the appliance" was the most important criterion for 17% of the participants.

Only one statistically significant difference is observed. This involves a 17% reduction in the share of respondents in Year #2 choosing cost of appliance as their most important criterion for selecting appliances ($z=-1.981$, $p=0.047$). Regardless of the large reduction, the cost of the appliance remains the primary criterion for selection appliances in both Year #1 and Year #2.

In Year #2 the share of respondents that had heard of smart meters before is 11.5% lower than those that had heard of them in Year #1. This difference is also statistically significant. Out of those that had heard of smart meters before a smaller proportion of respondents (17% less) had a smart meter in Year #2 compared to Year #1. However, in Year #2, 4% more respondents (38% in Year #2) would like to have a smart meter.

Only small differences were observed in respondents' opinions about smart meters over the two years and they remain very positive in both. Decreases are observed in the level of agreement with "Smart meters make my energy easy to understand and control" (-1% in mean value in Year #2) and "Smart meters make life easier by taking away the hassle of meter reads and estimated bills" (-5% in mean value in Year #2) while an increase is observed in the level of agreement with "Smart meters can help me to save money on my energy bills" (+1% in mean value in Year #2). None of the differences were statistically significant.

The difference in the proportion of respondents that had heard of EPCs in Year #1 and Year #2 is large (29% less respondents heard about EPCs in Year #2) and statistically significant. However, this high difference is mainly attributed to the different approaches followed in methodology between these years. As previously noted, the approach followed in Year #1 in which the same study participants were measured before and after an intervention (in this case their exposure to the SSO+ campaign) is different from the approach followed in Year #2 which deals with unrelated groups. In Year #1 there was not a risk of individual differences affecting the results as participants were effectively comparing against themselves which is not the case in Year #2.

Finally, methodological constraints do not allow to conclude with confidence if there's an increase in the awareness of smart meters or energy performance certificates in Year #2 when compared to Year #1.

# Annex I

Table 58 Country specific number of responses received per question in baseline and follow-up surveys (B: baseline; F: follow-up)

| | Bulgaria | | Cyprus | | Greece | | Ireland | | Lithuania | | Romania | | UK | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | F | B | F | B | F | B | F | B | F | B | F | B | F |
| How old are you? | 5 | 45 | 641 | 608 | 408 | 417 | 271 | 657 | 563 | 405 | 123 | 101 | 855 | 877 |
| Which of these best describes your current accommodation? | 5 | 45 | 641 | 608 | 408 | 417 | 271 | 657 | 563 | 405 | 123 | 101 | 855 | 877 |
| Please tell us the field which you are currently studying. To complete the survey we need to know which type of subject you are studying. | 5 | 45 | 612 | 591 | 406 | 415 | 264 | 648 | 563 | 405 | 114 | 95 | 852 | 876 |
| Which of the following best describes your gender identity. | 5 | 45 | 640 | 606 | 408 | 416 | 264 | 652 | 561 | 405 | 123 | 101 | 853 | 875 |
| Have you heard of the Student Switch Off+ (SSO+) campaign? It is an energy information campaign for students living in the private rented sector. | 5 | 45 | 641 | 608 | 408 | 417 | 271 | 657 | 563 | 405 | 123 | 101 | 855 | 877 |
| Where did you hear about the Student Switch Off+ (SSO+) campaign? | 1 | 27 | 63 | 186 | 73 | 105 | 25 | 98 | 67 | 72 | 65 | 39 | 730 | 696 |
| In what ways has Student Switch Off+ (SSO+) influenced you? | 1 | 26 | 61 | 186 | 71 | 113 | 25 | 100 | 67 | 73 | 64 | 40 | 714 | 705 |
| How well informed do you feel about the following? | 5 | 45 | 575 | 560 | 391 | 405 | 213 | 594 | 504 | 345 | 120 | 94 | 763 | 790 |
| To what extent do you undertake the following actions? | 5 | 44 | 570 | 554 | 391 | 406 | 212 | 594 | 502 | 342 | 119 | 94 | 760 | 789 |
| Which of the following actions, if any, have you taken in order to reduce the cost of your energy bill? | 4 | 35 | 557 | 245 | 392 | 176 | 210 | 308 | 490 | 142 | 115 | 48 | 760 | 539 |
| Which of the following words best describes how you feel about saving energy? | 5 | 44 | 537 | 533 | 382 | 399 | 184 | 552 | 484 | 331 | 116 | 95 | 734 | 749 |
| Please consider each of the statements below and indicate to what extent you agree or disagree with it? | 5 | 44 | 540 | 536 | 386 | 402 | 181 | 552 | 481 | 331 | 115 | 94 | 729 | 741 |
| How important, if at all, are the following criteria when you are choosing electrical appliances for your house? | 5 | 42 | 364 | 361 | 339 | 270 | 119 | 398 | 349 | 259 | 77 | 70 | 578 | 587 |
| Have you heard of smart meters before? | 5 | 22 | 543 | 123 | 384 | 128 | 178 | 262 | 481 | 109 | 113 | 62 | 727 | 617 |
| Do you have a smart meter in your current accommodation? | 1 | 22 | 111 | 121 | 88 | 128 | 77 | 262 | 129 | 109 | 41 | 62 | 575 | 616 |

| | Bulgaria | | Cyprus | | Greece | | Ireland | | Lithuania | | Romania | | UK | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | F | B | F | B | F | B | F | B | F | B | F | B | F |
| To what extent, if any, do you agree or disagree with the following statements about the smart meters? | 1 | 22 | 96 | 119 | 84 | 121 | 76 | 261 | 127 | 109 | 42 | 60 | 556 | 613 |
| Have you heard of an Energy Performance Certificate (EPC) before? | 5 | 44 | 532 | 535 | 378 | 400 | 171 | 543 | 474 | 326 | 113 | 95 | 718 | 735 |
| Did you see the Energy Performance Certificate (EPC) of your current property before you moved in? | 5 | 44 | 531 | 524 | 380 | 391 | 170 | 544 | 474 | 327 | 112 | 95 | 720 | 737 |
| Will you take, the Energy Performance Certificate score into account when selecting your next accommodation? | 4 | 44 | 528 | 532 | 376 | 390 | 169 | 541 | 475 | 327 | 111 | 94 | 716 | 733 |
| Did you answer a questionnaire like this at the beginning of the academic year? | *n/a* | 38 | *n/a* | 462 | *n/a* | 359 | *n/a* | 452 | *n/a* | 269 | *n/a* | 83 | *n/a* | 534 |