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Project Coordinator: Seamus Hoyne  
Project coordination org.: Tipperary  
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**CONCERTO INITIATIVE**  
**SERVE**

**Sustainable Energy for the Rural Village Environment**

**Integrated Project**

**PRIORITY 6: Sustainable development, global change and ecosystems. Sub-priority: Sustainable energy systems.**

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Authors: Tijana Savic, Velimir Segon, Julije Domac, Pauline Ryan

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## Executive Summary

This report presents the results of the 2<sup>nd</sup> baseline socio-economic analysis of the SERVE region, performed as part of the activities aimed to assess the impact of the SERVE project on the region and its citizens from a socio-economic viewpoint. The baseline study was carried out with the following main objectives:

- to obtain the current status of renewable energy sources (RES) utilization and rational use of energy (RUE) measures carried out within the region;
- to review the general attitudes and perceptions of the population towards sustainable development;
- to assess the interest and willingness of the population to participate in education and training activities related to sustainable development, as well as in the implementation of potential sustainable development projects which would be carried out in the local community level.

The surveying was conducted in the three villages of the SERVE region, namely Cloughjordan, Borrisokane and Toomevara. Questionnaires were sent by post and the survey package contained a cover letter, questionnaire with instructions, a FREEPOST return envelope and a lottery scratch card. In keeping with the approach to the previous survey the settlement confines were defined by the first speed limit signs encountered on all roads exiting the settlement and within these boundaries sub-groups of distributors were directed to post the survey package through the letterboxes of houses in various parts of the settlements.

The current status of energy utilisation within the region hasn't changed much in comparison with 2008. The majority of the respondents utilise fossil fuels, namely heating oil, for heating and hot water preparation. Regarding renewable energy sources, biomass has a share of 8% for both heating and hot water preparation, while other renewables like solar collectors and heat pumps have a share below 1%.

Regarding environment protection and support for sustainable development there is an increase of 9% of those who think that economy should be given priority over environment protection and decrease of 7% of those who think environment protection should be given priority over economy.

The willingness to participate in training and education activities has also changed in the last two years and there is an increase of people (12%) who aren't interested in participation. However, there is an increase in the percentage among the people who have heard about the SERVE project and afterwards applied for grant supported insulation upgrades.

## 1 Introduction

The SERVE project is funded under the EU CONCERTO Programme and aims to develop a sustainable region in North Tipperary, Ireland, through the implementation of actions in the field of sustainable energy. Actions include energy upgrades for existing dwellings, installation of renewable energy heating systems, development of an eco-village in Cloughjordan and the development of a district heating system.

In addition to the technical and environmental benefits which will be brought about by the SERVE project, the objectives also include the assessment of the impact of the project on the SERVE region and its citizens from a socio-economic viewpoint. The work in this area is organised through a separate Work Package, namely WP6: Socio-Economic Analysis and Research, with the following tasks:

- Provide a detailed analysis of the impact on job creation and service supply.
- Provide a coherent overview and prepare (scenario based) forecasts for replication both within North Tipperary and beyond.
- Identify opportunities for the development of Energy Supply Companies (ESCO's) within Ireland
- Perform an analysis of local funding and money flows from proposed action
- Perform an evaluation of the different externalities of the above-mentioned chains compared to key alternatives for the different timeframes envisaged; applicable to regional conditions in the SERVE project.
- Perform an analysis of payback time for proposed SERVE project measures in buildings sector as well as other cost-benefit and SWOT analysis as appropriate.
- Study the effects on health, involvement of citizens, attitudes of building owners and consumers, acceptance and effects of job growth for concrete cases included in this project.

As part of the activities within WP6 a baseline socio-economic study of the SERVE region was performed, which included the 2<sup>nd</sup> surveying and 'on the field' gathering of information through a questionnaire. The baseline study was carried out with the following main objectives:

- to obtain the current status of renewable energy sources (RES) utilization and rational use of energy (RUE) measures carried out within the region;
- to review the general attitudes and perceptions of the population towards sustainable development;
- to assess the interest and willingness of the population to participate in education and training activities related to sustainable development, as well as in the implementation of potential sustainable development projects which would be carried out in the local community level.

The surveying was conducted in the three villages of the SERVE region, namely Cloughjordan, Borrisokane and Toomevara. The rate of response and engagement in each village was quite different, whereas people in Borrisokane engaged best, followed by Cloughjordan and least of all Toomevara.

## 2 Surveying methodology and sample

The methodology selected for the May 2010 Survey was that of anonymous self-completion questionnaire by postal return. In total, 300 surveys were distributed in the 3 settlements with the number per settlement calculated according to population proportions in order to be consistent with the previous survey.

In effect, this meant that 56 were distributed in Toomevara, 78 in Cloughjordan and 166 in Borrisokane. The distribution of the questionnaires was carried out by a team of undergraduate students from Tipperary Institute, supervised by Pauline Ryan.

In keeping with the approach to the previous survey the settlement confines were defined by the first speed limit signs encountered on all roads exiting the settlement and within these boundaries sub-groups of distributors were directed to post the survey package through the letterboxes of houses in various parts of the settlement; this may be considered a version of clustered random sampling.

The survey package contained a cover letter, the questionnaire with instructions included, a FREEPOST return envelope and a lottery scratch card as an incentive. A reminder to complete and return was placed in the parish notes of the local newspaper "The Nenagh Guardian". A second reminder was subsequently placed in the same medium and detailed an extension to the return date.

**Table 1.** Number of distributed surveys and received answers

<b>Settlement</b>	<b>Number of distributed surveys</b>	<b>Received answers</b>
Cloughjordan	78	17
Borrisokane	166	30
Toomevara	56	11
<b>Total</b>	<b>300</b>	<b>58</b>

### 3 Results

The survey results are divided in four main categories, based on the groups of questions included in the questionnaire:

- Current status of renewable energy sources / rational use of energy;
- Attitudes / Opinions;
- Interest / Participation;
- Analysis by settlements.

All presented results include a comparison of the 2010 survey with the 2008 survey, in order to enable the identification of major changes and differences in perception and attitudes.

#### 3.1 Current status of renewable energy sources / rational use of energy

There were 4 questions in this group, dealing with the issues such as fuel currently used for heating and hot water preparation, energy efficiency measures implemented to date and self rating of energy costs.

Figure 1. shows the results regarding the type of fuel currently used for space heating: 42% of the participants prefer to use heating oil for the space heating in their homes, 18% of them use turf, 18% coal and 13% use electricity. A smaller percentage of the surveyed population use biomass and gas. For hot water preparation the situation is rather similar, as shown in Figure 2. Most of the participants, 44% of them, tend to use heating oil, and 34% electricity. Smaller percentages use other types of fuel like gas, coal and biomass. When compared with 2008, there is a slight increase in using heating oil for heating of hot water.

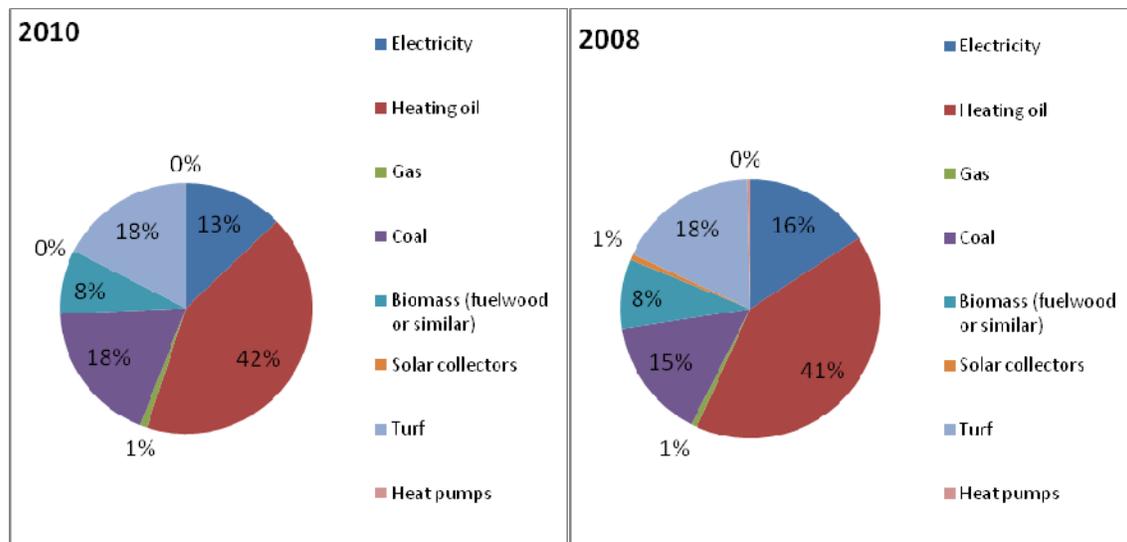
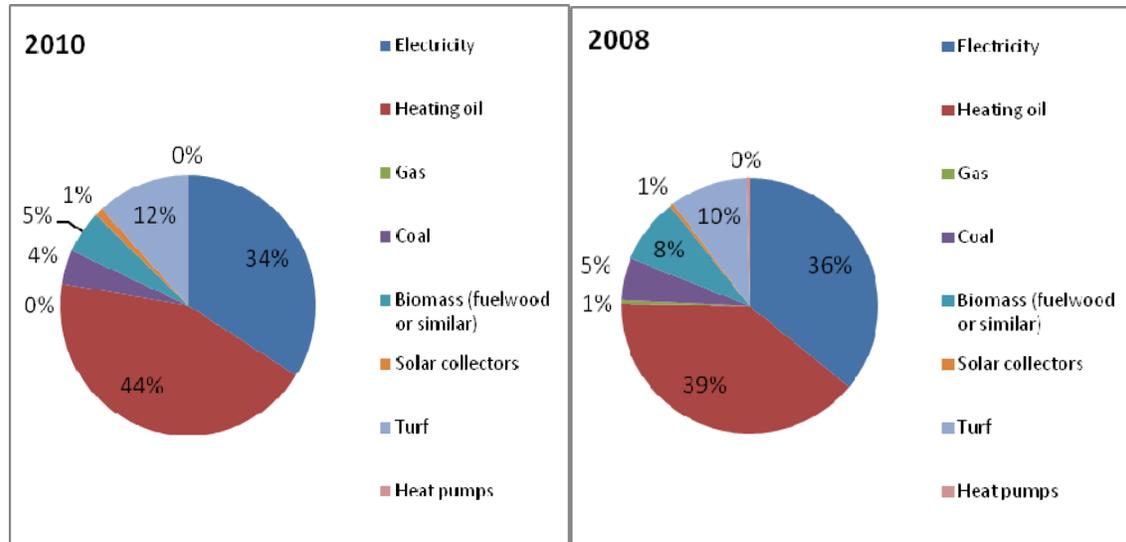
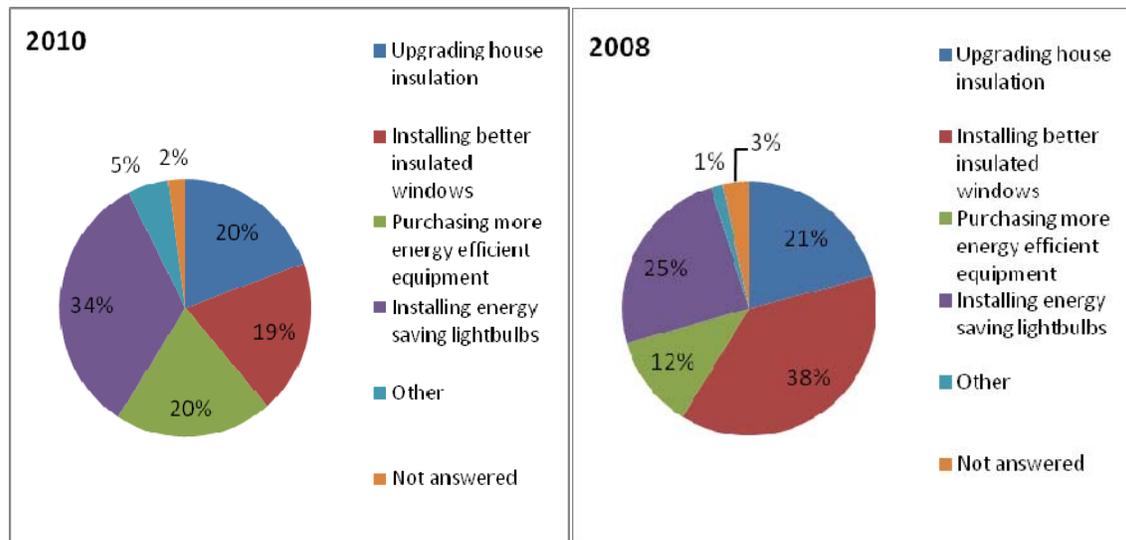


Figure 1. Type of fuel/energy currently used for space heating



**Figure 2.** Type of fuel/energy currently used for heating hot water

The various energy saving measures implemented in households are shown in Figure 3. Most of participants, 34% of them, installed energy saving bulbs, 20% upgraded house insulation, 20% purchased more energy efficient equipment and 19% installed better insulated windows. By comparing results with 2008 it can be seen that there is a decrease in installing better insulated windows but increase in implementing soft energy efficient measures in households as installing energy saving bulbs. However, in total 74% (this percentage increased in last two years) of the respondents rate their energy costs for heating, hot water and electricity as significant, high or too high as it is shown in Figure 4.



**Figure 3.** Energy saving measures implemented in households

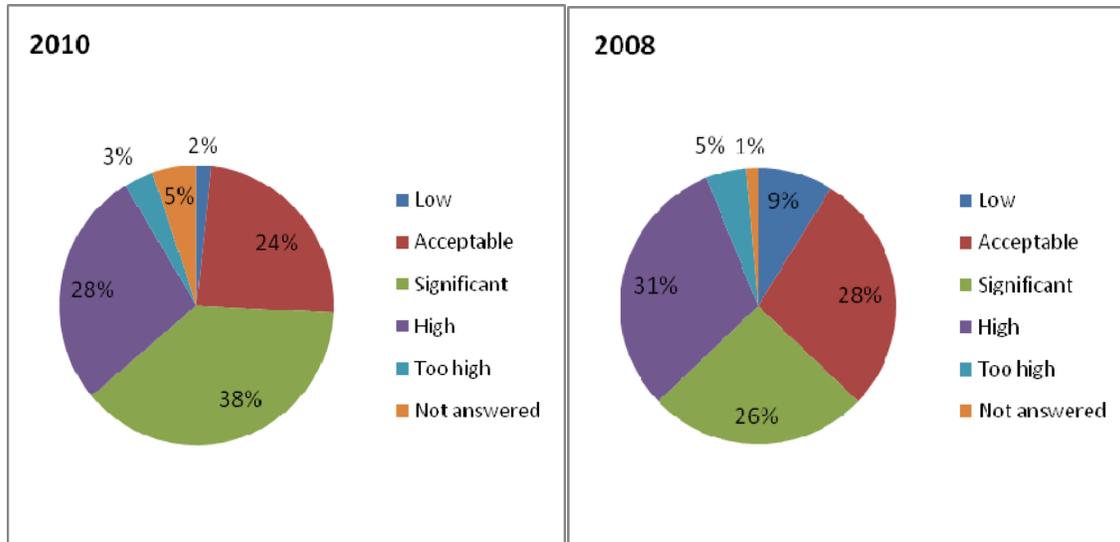


Figure 4. Rate of energy costs

### 3.2 Attitudes / Opinions

The second group of questions deals with the issues like degree of awareness, knowledge, attitudes and opinions regarding renewable energy sources (RES) and rational use of energy (RUE).

Figure 5. shows the results to the self-evaluation regarding how well the local community is informed about issues related to RES and RUE, with 51% of the population stating to be fairly well informed, while 5% claim to be very badly informed. When asked whether they would agree to buy environmentally friendly products even if they cost a little bit more, 21% of the respondents totally agreed and 54% tended to agree, Figure 6.

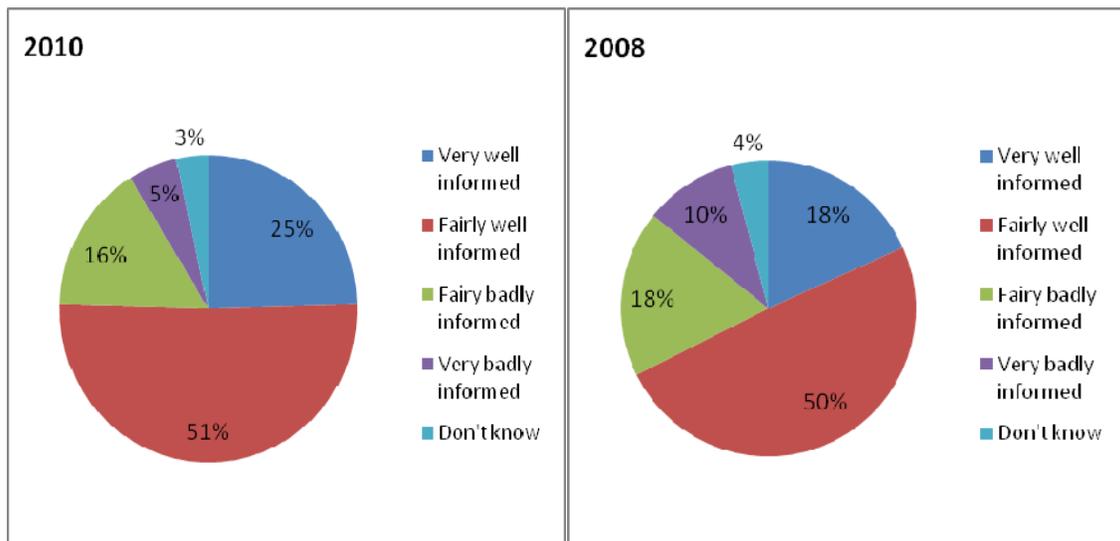
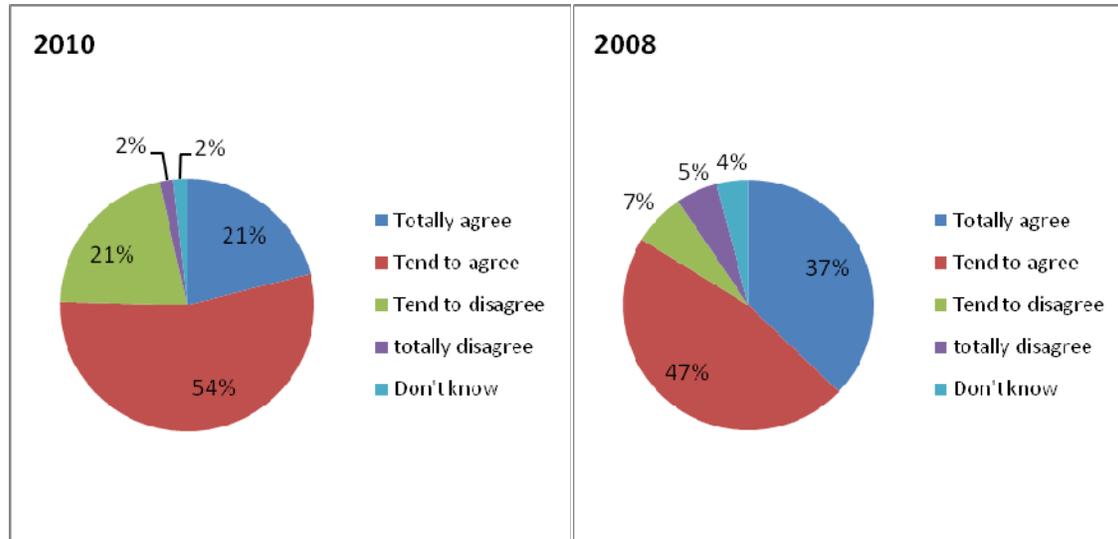
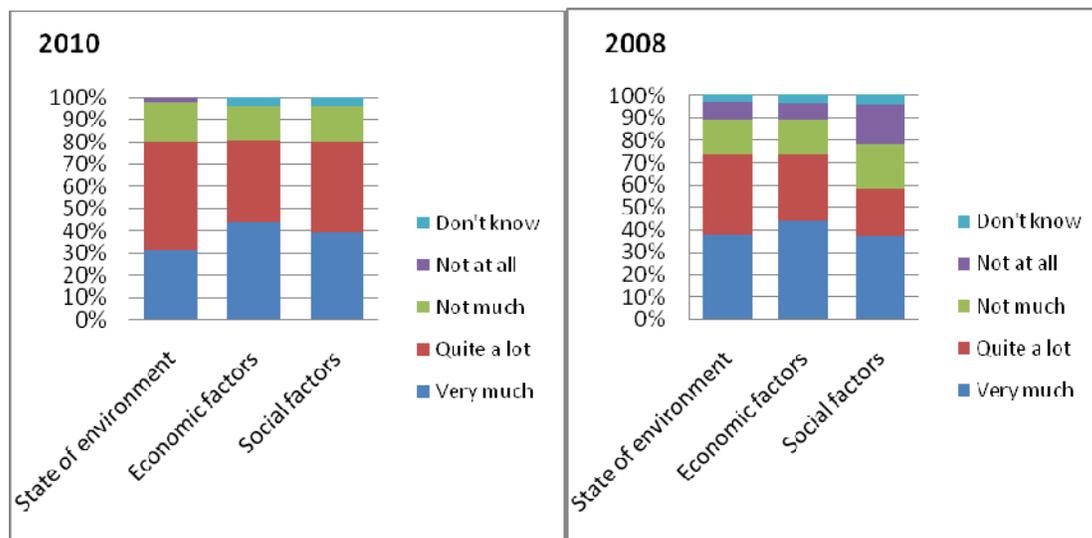


Figure 5. Rate of awareness about issues related to RES and RUE



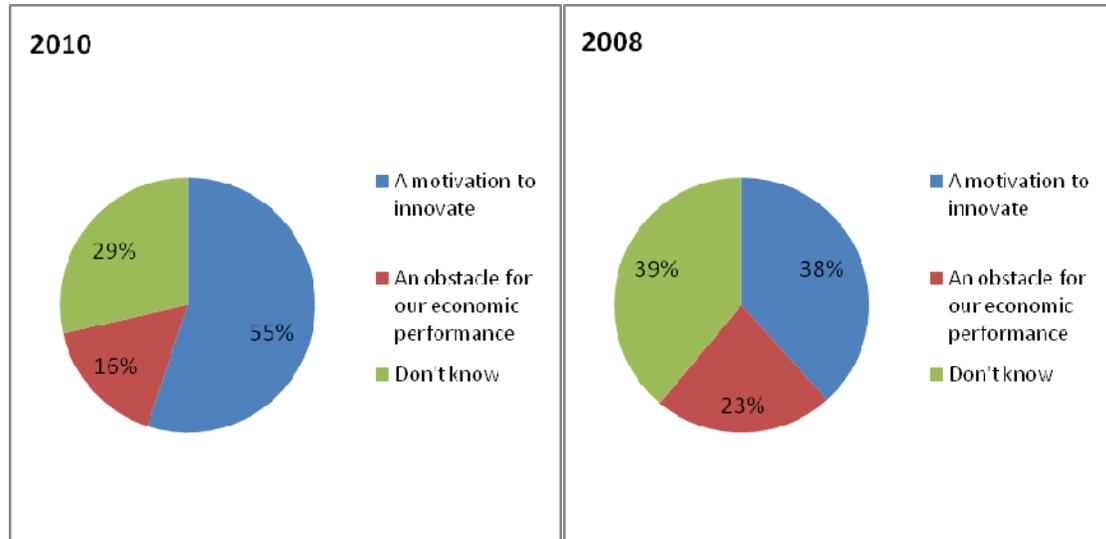
**Figure 6.** Approval for buying environmentally friendly products even if they cost a little bit more

Figure 7. shows the results for the question 'to what extent do the following factors influence your quality of life?' for three different factors: state of the environment, economic factors and social factors. As can be seen, economic and social factors have a similar influence on quality of life but also there is an increase of those who think that environment has an influence on their quality of life.

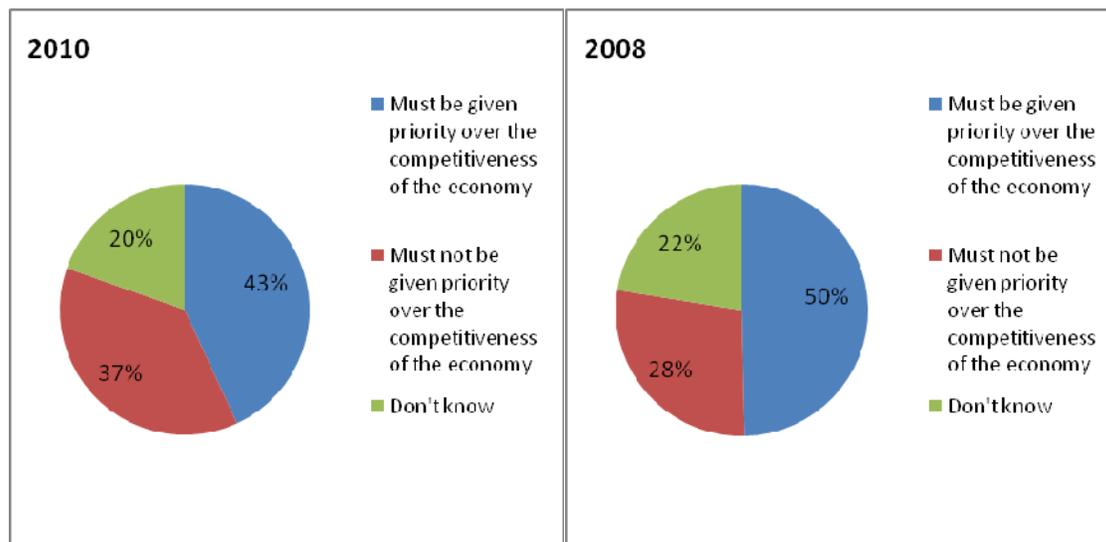


**Figure 7.** Opinion regarding the extent of influence of various factors to the 'quality of life'

When asked whether the policies aimed at protecting the environment represent in their opinion a motivation to innovate or an obstacle for economic performance, the respondents answered as follows: 55% thought that was an opportunity to innovate, 16% saw it as an obstacle for economic performance, and 29% of them didn't know, Figure 8. Finally, 43% of the respondents think that environmental protection must be given priority over the competitiveness of the economy, Figure 9.



**Figure 8.** 'Are policies aimed at protecting the environment...?'



**Figure 9.** 'To which of the following opinions do you feel the closest? Environmental protection...'

### 3.3 Interest / Participation

The third group of questions aimed at investigating the interest and willingness to participate in education and training activities related to sustainable development, as well as in the implementation of potential sustainable development projects which would be carried out in the local community level. Figure 10 shows the results regarding the respondents' willingness to participate in training programs (including workshops or seminars) related to RES and RUE. 56% of participants showed interest in this kind of training programs which is a decrease from 2008. At the same time 78% of the respondents would be willing to participate in RES and RUE projects in their local community by devoting their time or contributing financially, Figure 11.

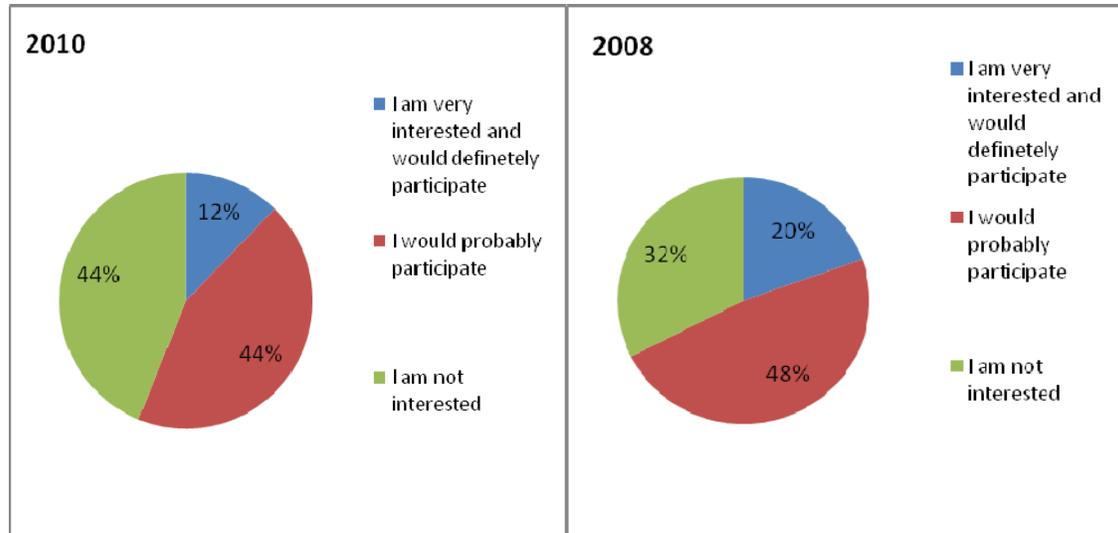


Figure 10. Willingness to participate in training programs related to RES and RUE

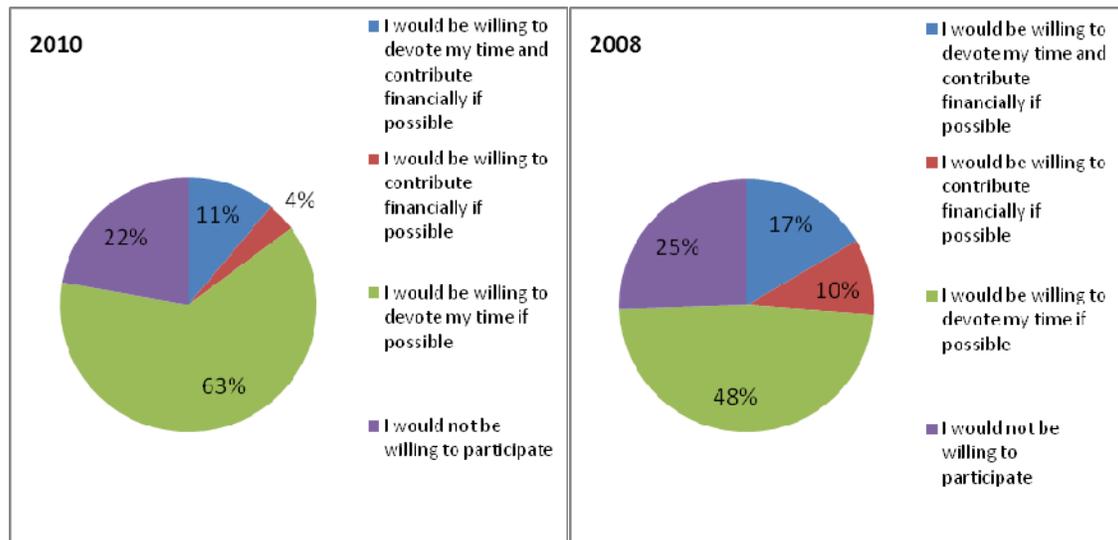
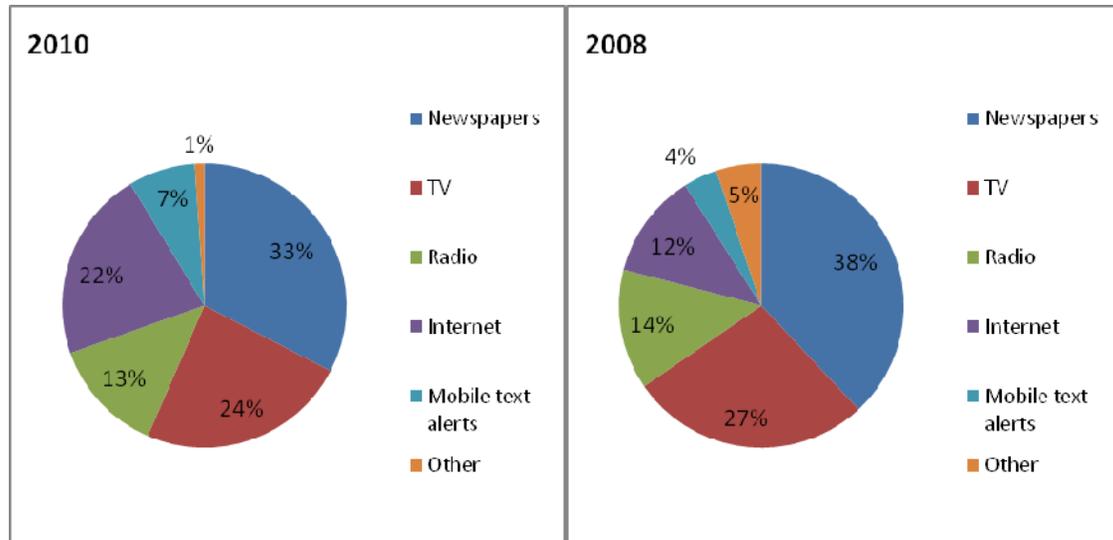


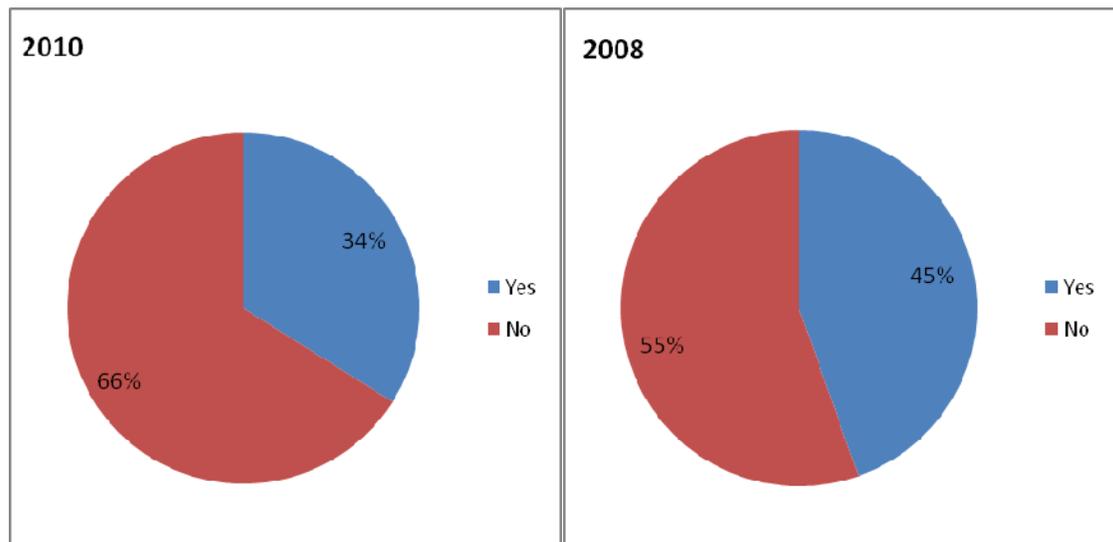
Figure 11. Willingness to participate in RES and RUE projects in your local community

Figure 12 shows the results regarding the information sources which people in the community would prefer to receive information from regarding RES and RUE. As can be seen, 33% of citizens would like to get this information from newspapers, 24% from TV, 22% from internet and the rest from other sources like radio and mobile phones. As can be seen, there is an increase of those who would like to receive news from internet which is not so surprising since internet becomes more and more popular among people.

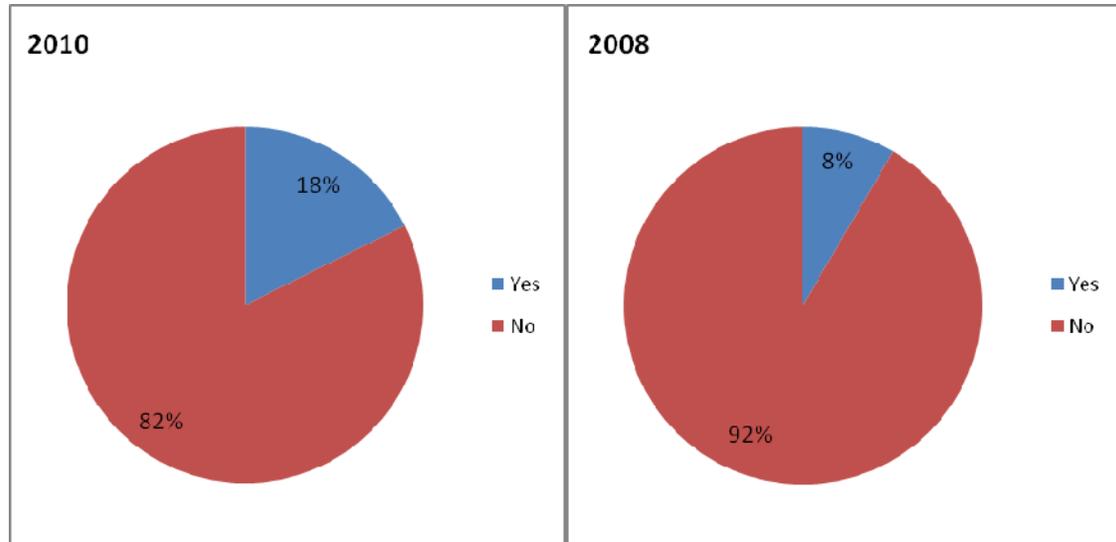


**Figure 12.** Preferred information sources for receiving information regarding RES and RUE

In the region of North Tipperary, where the SERVE project is being conducted, based on the results of the survey 34% of respondents have heard about the project which is a decrease from 2008, Figure 13. At the same time 18% of those who have heard about the SERVE project applied for grant supported insulation upgrades which is an increase of 10% in comparison with 2008, Figure 14.



**Figure 13.** Participants awareness of SERVE project



**Figure 14.** Participants applying for the grant supported insulation upgrades

### 3.4 Analysis by settlements

The following results represent the analysis of survey results by settlements related to implementation of energy efficient measures in households. As can be seen in Figure 15, in Toomevara a high percentage of residents purchased more energy efficient equipment compared with other two settlements. At the same time, a lower percentage of people in Toomevara purchased and installed energy saving bulbs.

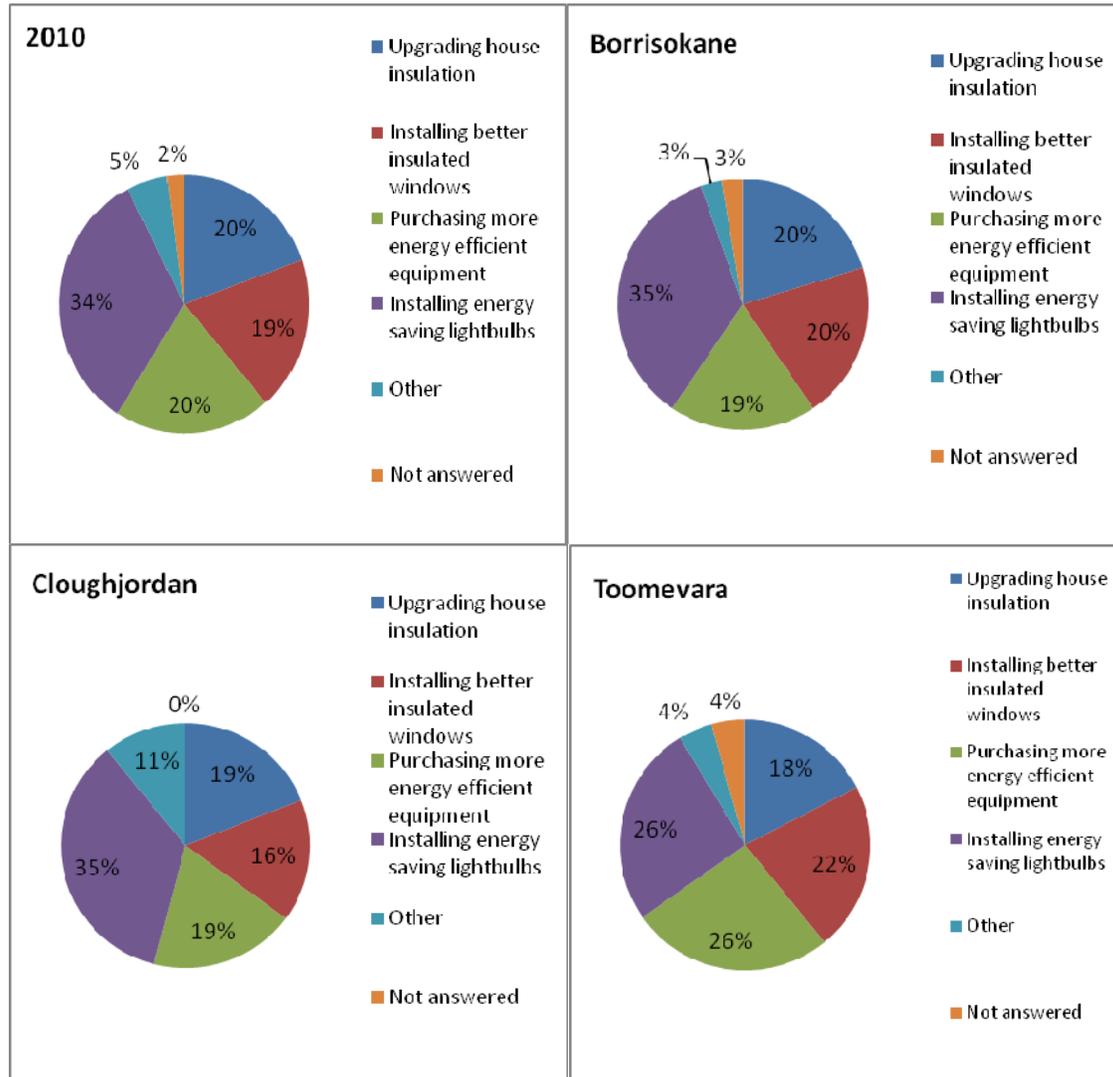


Figure 15. What type of energy saving measures have you implemented in your house?

As shown in Figure 16, 41% of residents in Cloughjordan think that their costs are acceptable or low which is much higher percentage than in other two settlements.

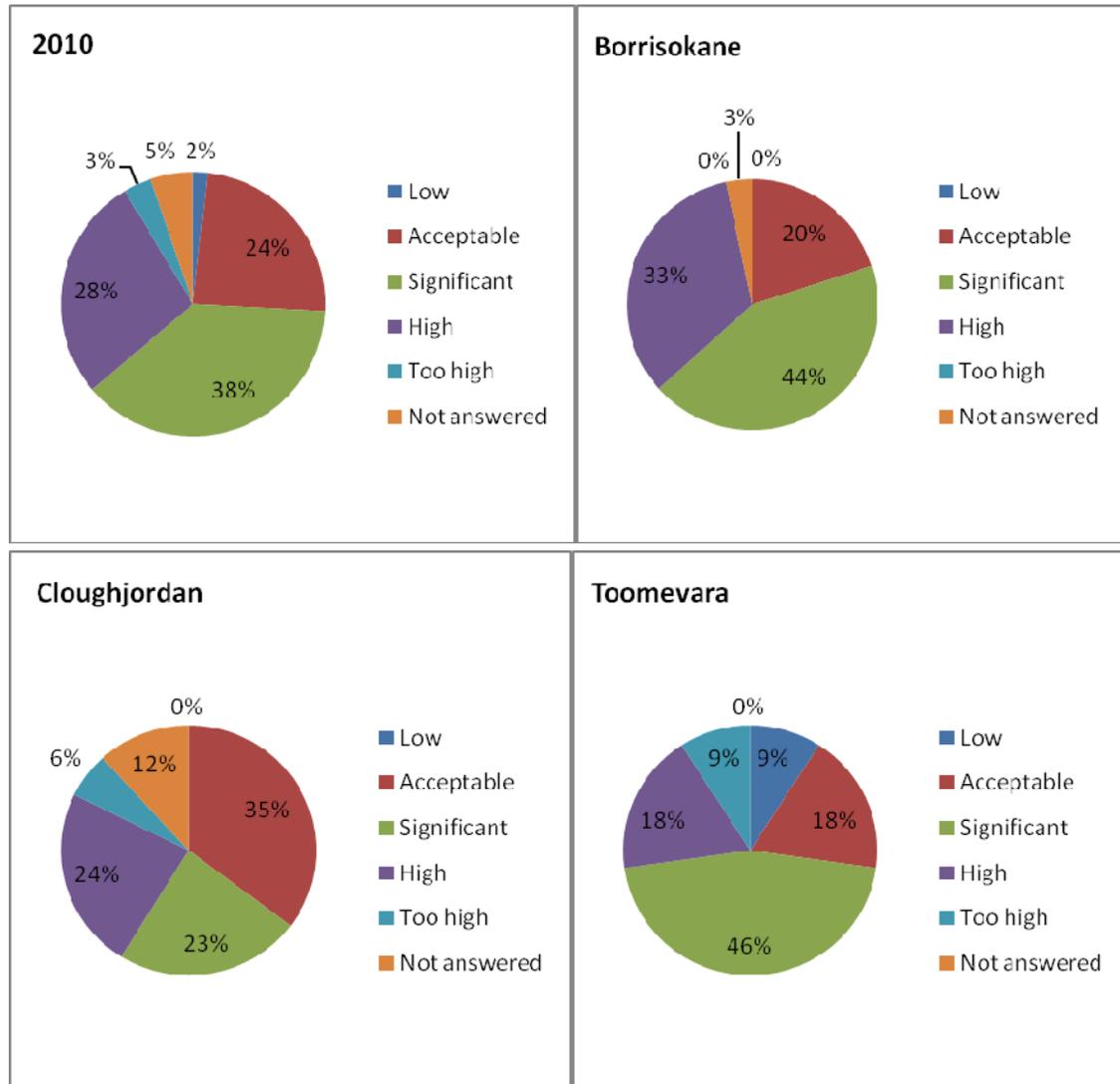
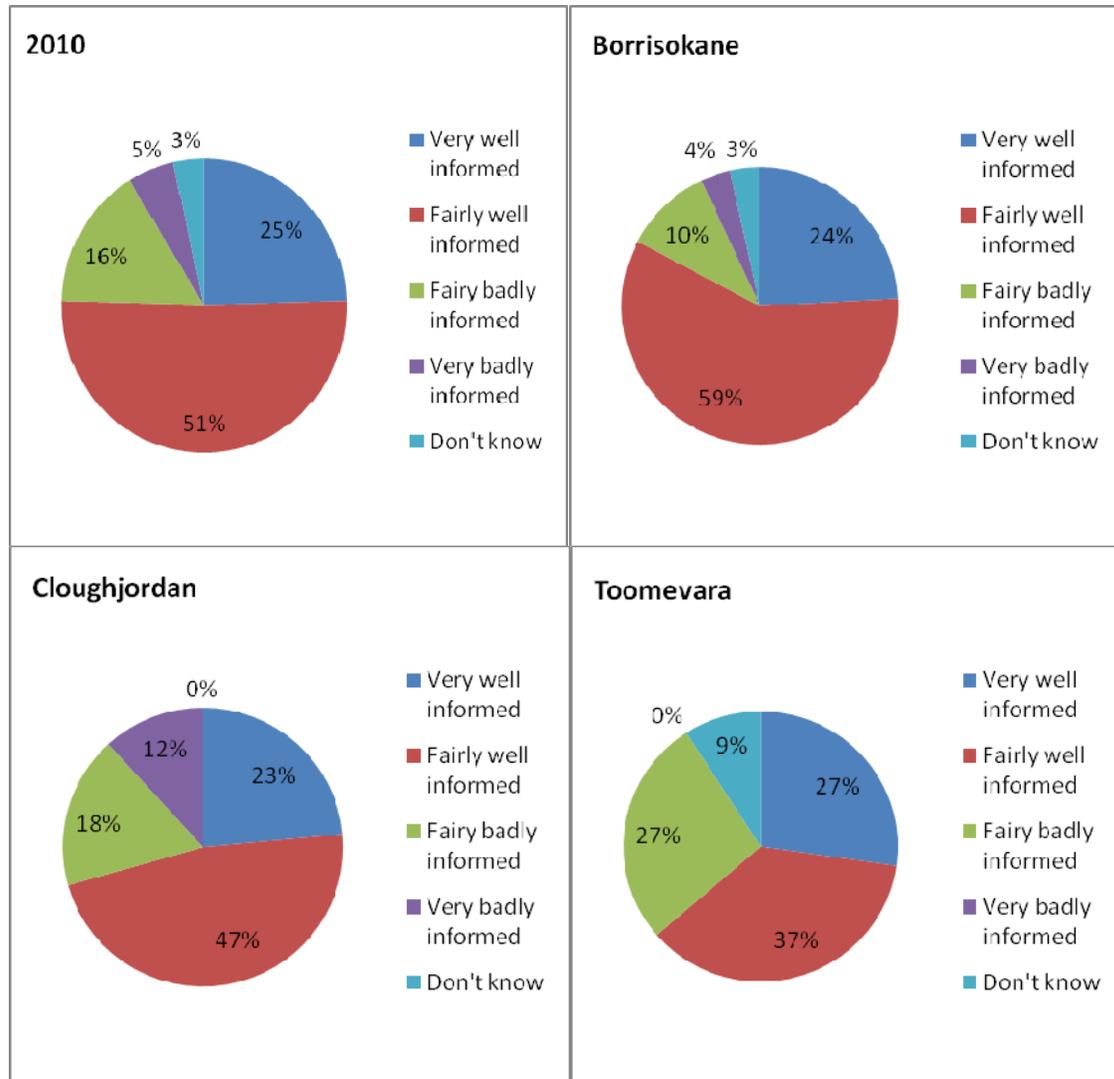


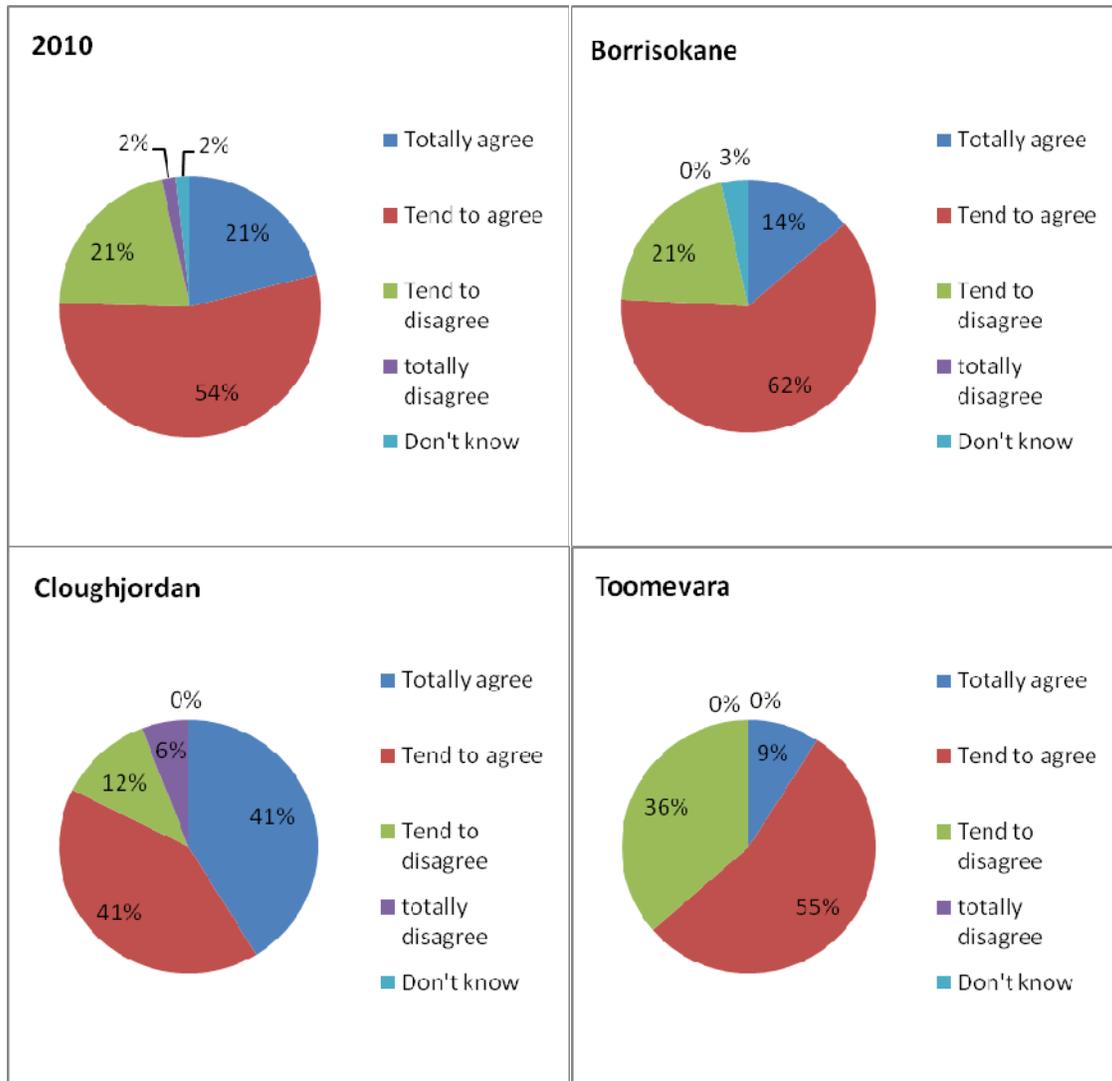
Figure 16. How would you rate your energy costs?

Looking at the results regarding the self-evaluation of knowledge and level of information, most informed residents are in Borrisokane, with 83% of them stating to be fairly well or very well informed on issues related to renewable energy sources and energy efficiency, followed by Cloughjordan (70%) and Toomevara (64%).



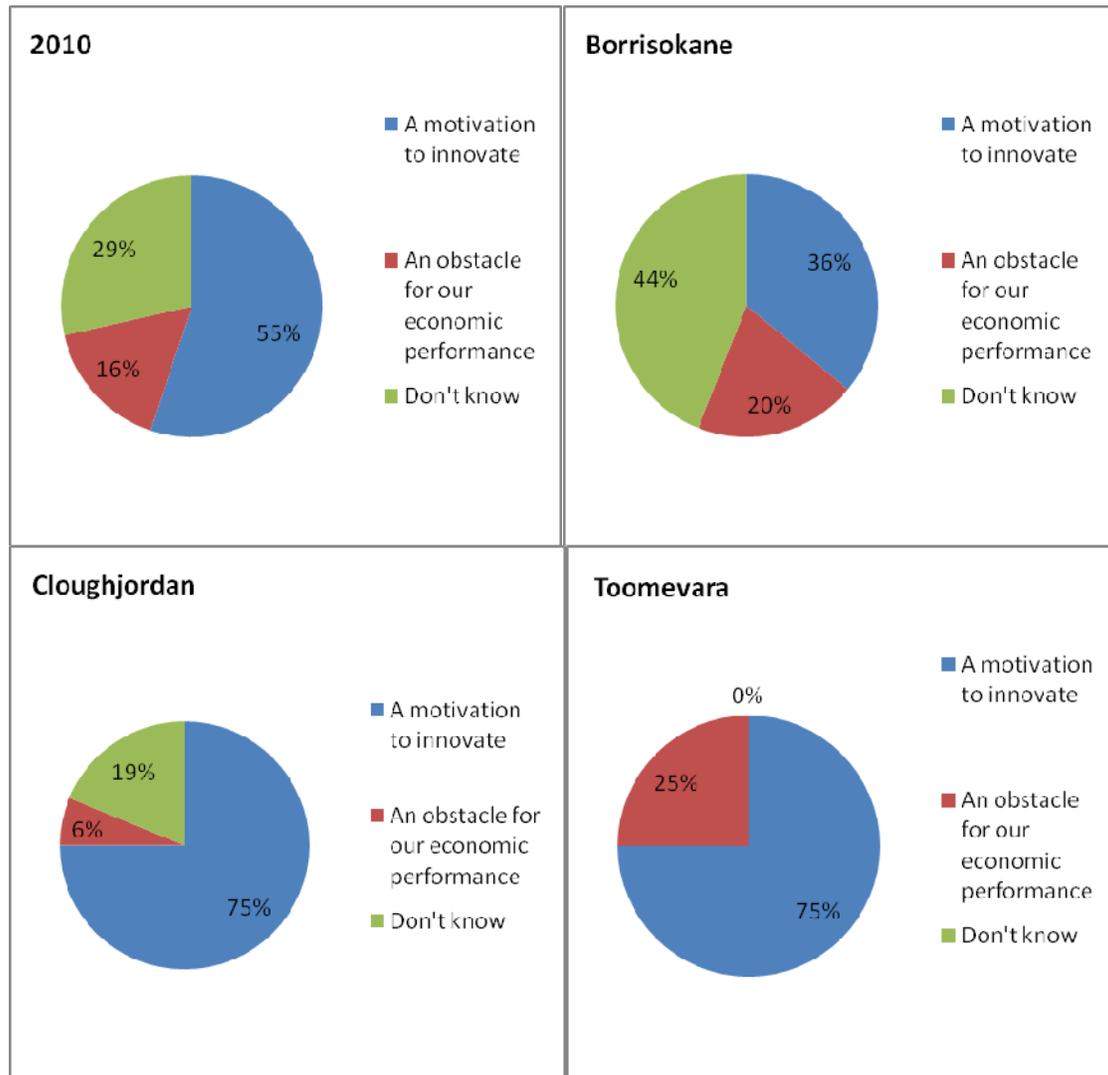
**Figure 17.** How informed do you feel about issues related to renewable energy sources and energy efficiency?

When considering buying environmentally friendly products even if they cost a little bit more, residents in Borrisokane and Cloughjordan mostly agree with buying this kind of products but residents in Toomevara have a high percentage of those you wouldn't agree with this statement, as shown in Figure 18.



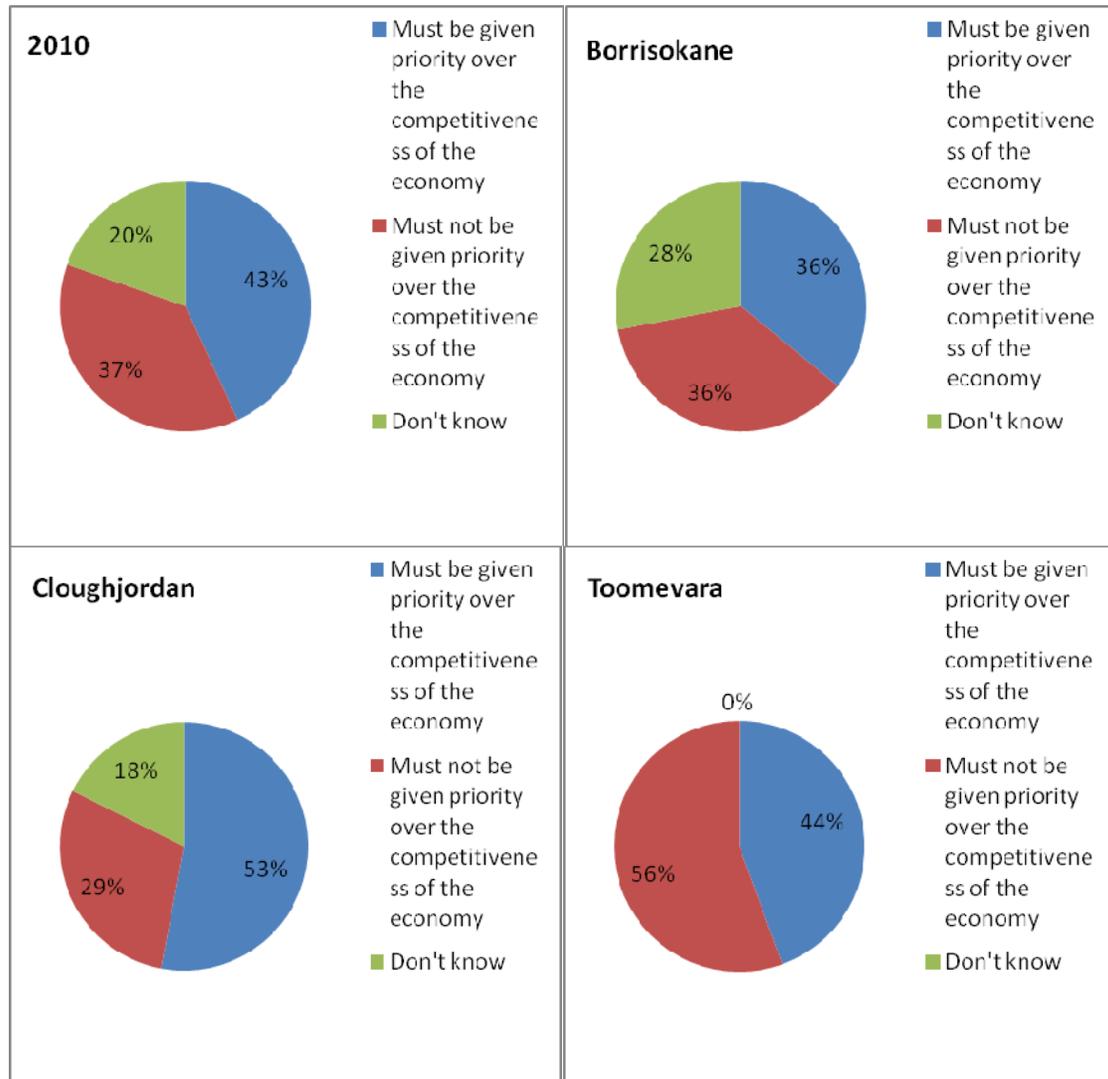
**Figure 18.** How do you feel about the statement: "I am happy to buy environmentally friendly products even if they cost a little bit more"?

As shown in Figure 19, a rather small percentage (36%) of respondents from Borrisokane sees policies aimed at protecting the environment as a motivation to innovate. In Cloughjordan and Toomevara this percentage is much higher (75%).



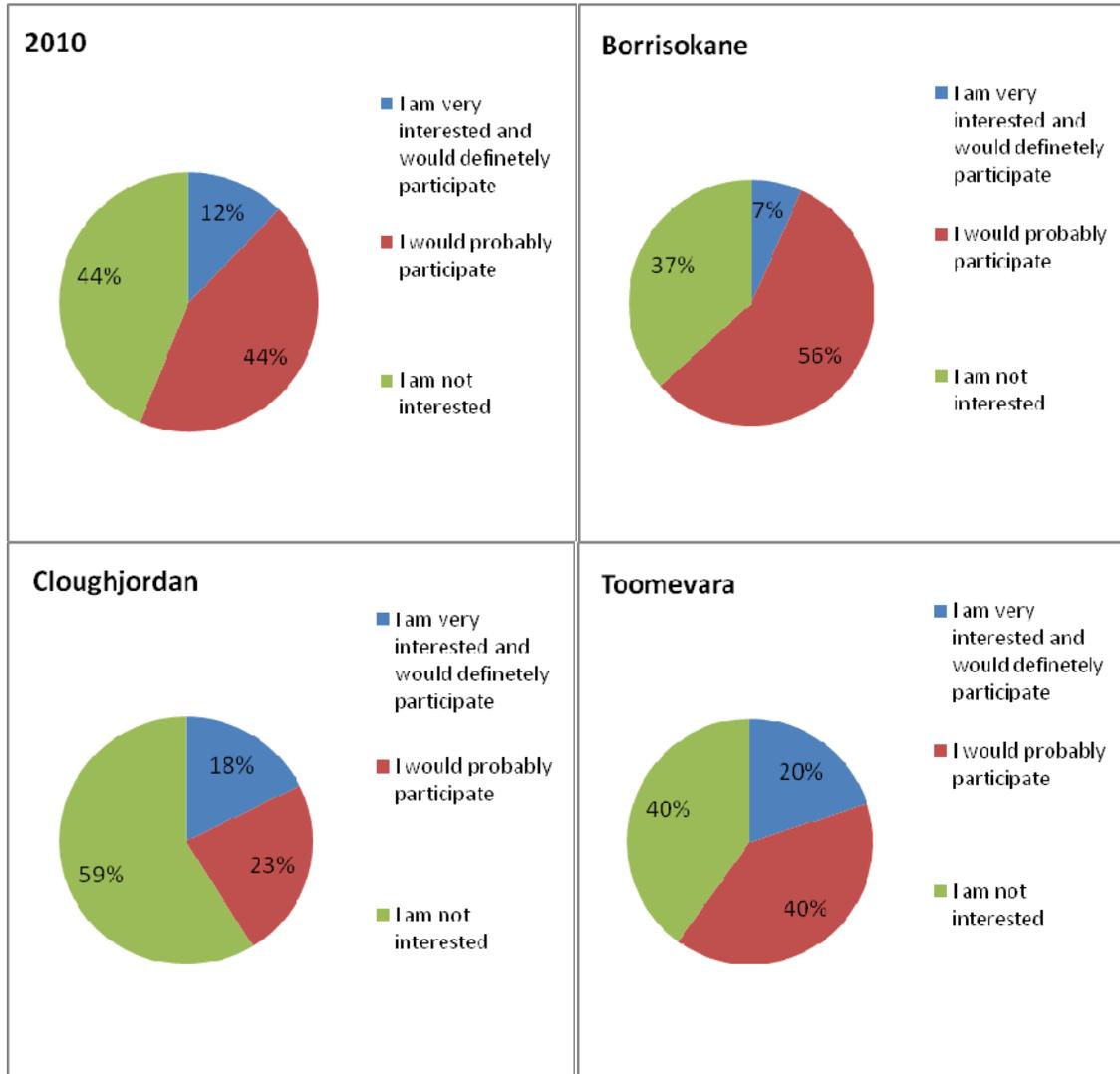
**Figure 19.** To which of the following opinions do you feel the closest? Are policies aimed at protecting the environment...

Regarding the question and statement whether environment protection should be given priority over economy or vice versa, residents in Borrisokane are equally divided, residents in Cloughjordan think that environment protection is more important than economy and residents in Toomevara think that economy must be given priority over environment protection, Figure 20.



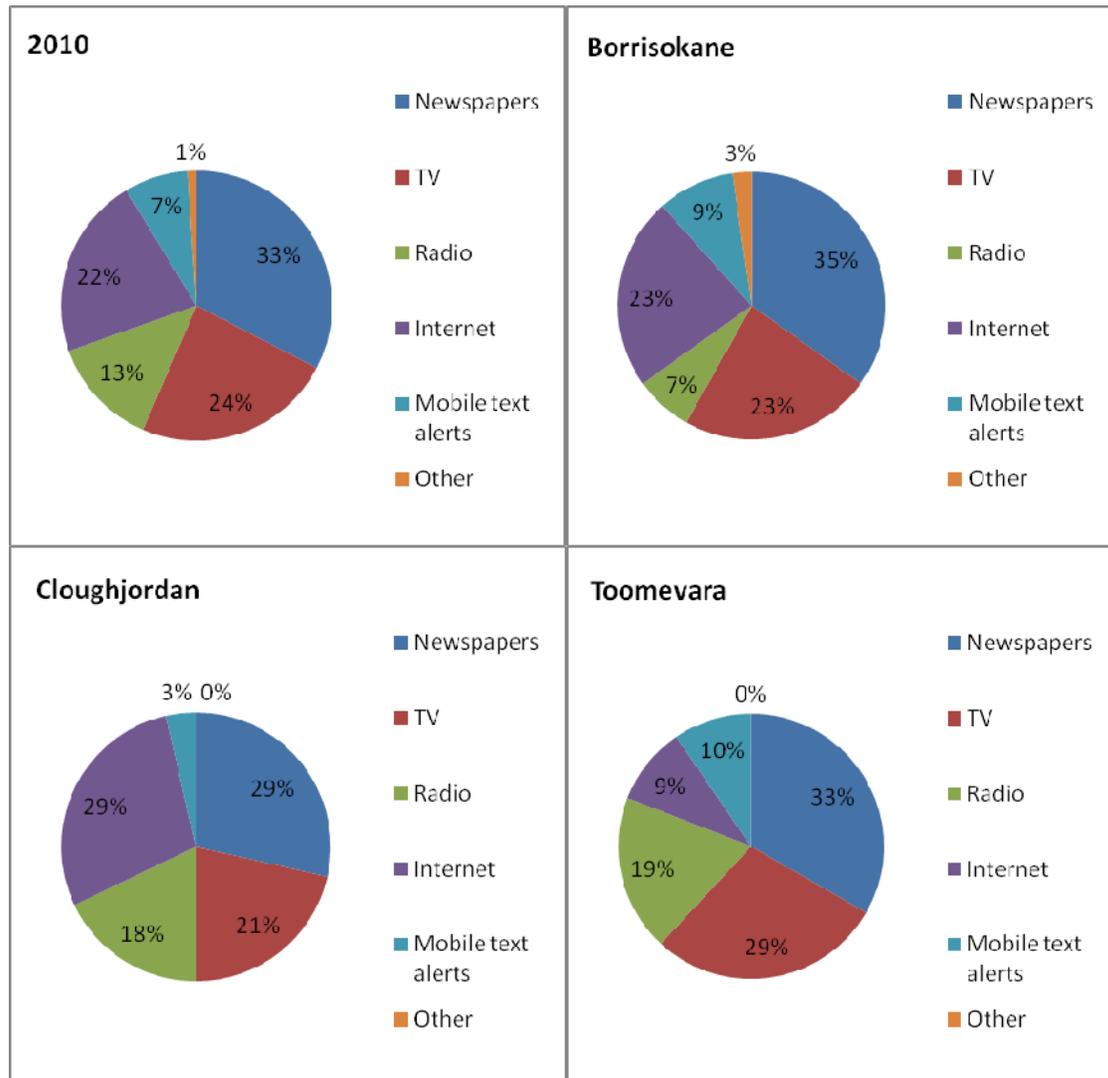
**Figure 20.** To which of the following opinions do you feel the closest? Environmental protection...

The smallest interest for participation in training programmes has been stated by residents of Cloughjordan (59%) while most of residents of Borrisokane and Toomevara would participate in training programmes, as shown in Figure 21.



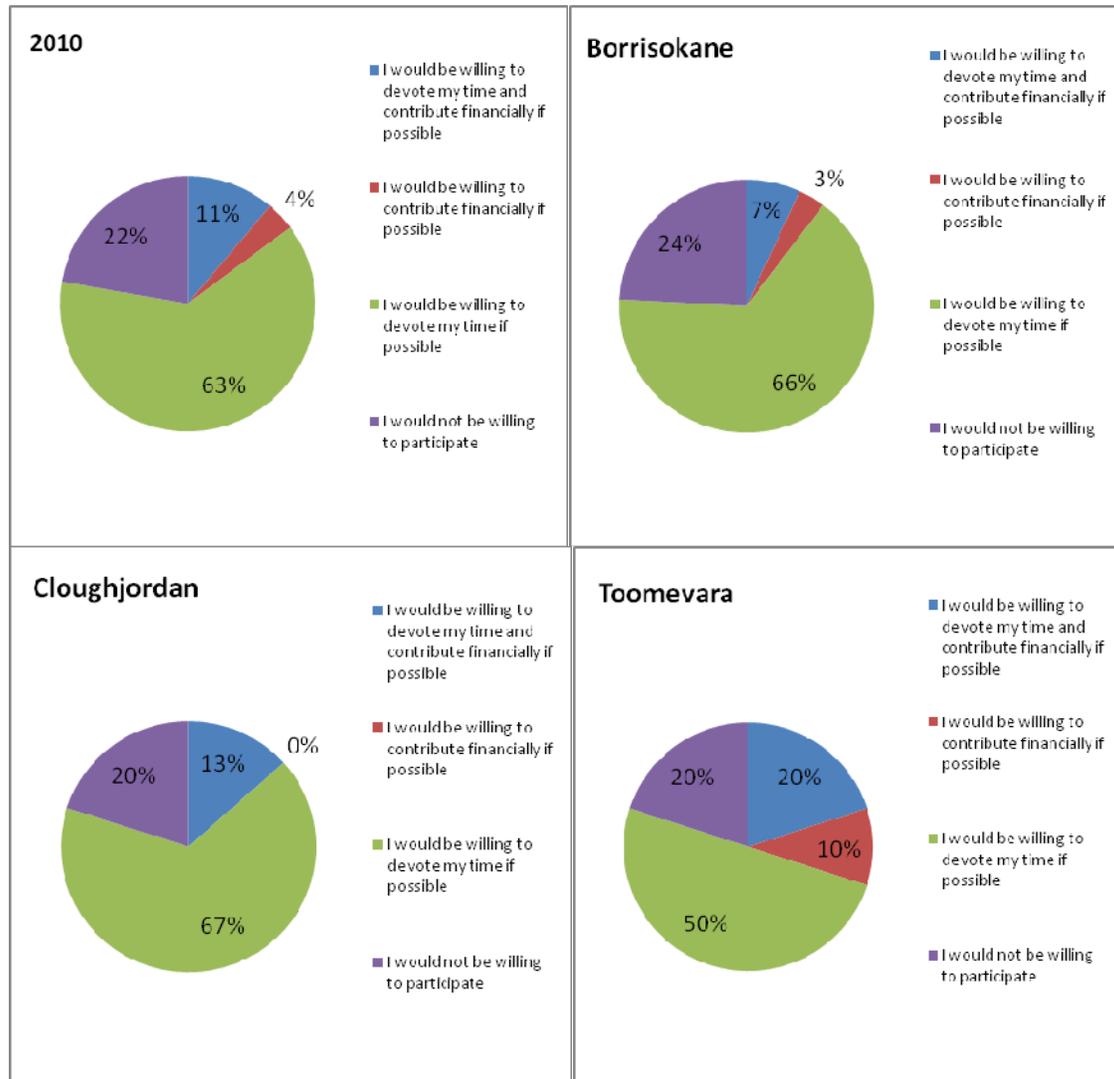
**Figure 21.** Express your willingness to participate in training programmes related to renewable energy sources and energy efficiency

Concerning the information sources residents preferred for receiving information on renewable energy sources and energy efficiency, the percentages are mostly the same except smaller percentage of residents in Borrisokane who would prefer receiving information from radio.



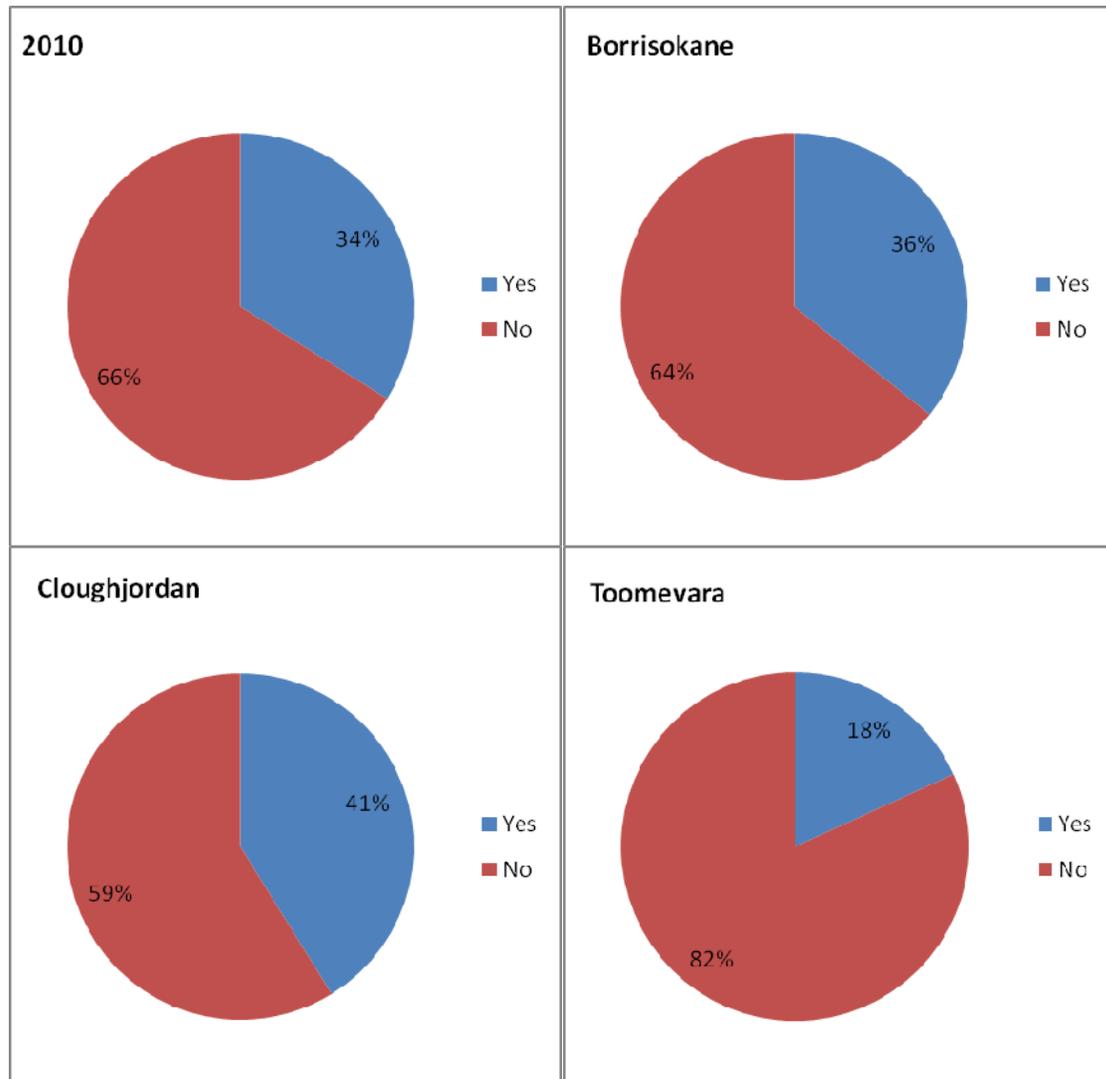
**Figure 22.** Please select the information sources which you would prefer to receive information regarding renewable energy sources utilisation and energy efficiency

Figure 23. shows the results to the question regarding the willingness of residents to participate in projects related to renewable energy sources and energy efficiency. As can be seen residents from all three settlements are mostly willing to devote their time to project but would not be willing to contribute financially in so high percentage.



**Figure 23.** Express your willingness to participate in renewable energy or energy efficiency projects in your local community

As shown in Figure 24, most of people from all three settlements stated that they haven't heard about the SERVE project. At least a part of such a result could be explained by the wording of the question, that is the specific inquiry regarding the name of the project rather than asking whether the respondents are aware of the project activities and results (i.e. the subsidies for upgrading of households). In order to evaluate this effect, the questionnaire for the 3<sup>rd</sup> survey planned at the end of the project will include two questions, whereas the first will target the results and activities without stating the name of the project, while the second will target only the name of the project.



**Figure 24.** Have you heard of the SERVE project?

Figure 25. shows that of those people who have heard about SERVE project, people who have applied for grants were those from Borriskane and Cloughjordan and none from Toomevara.

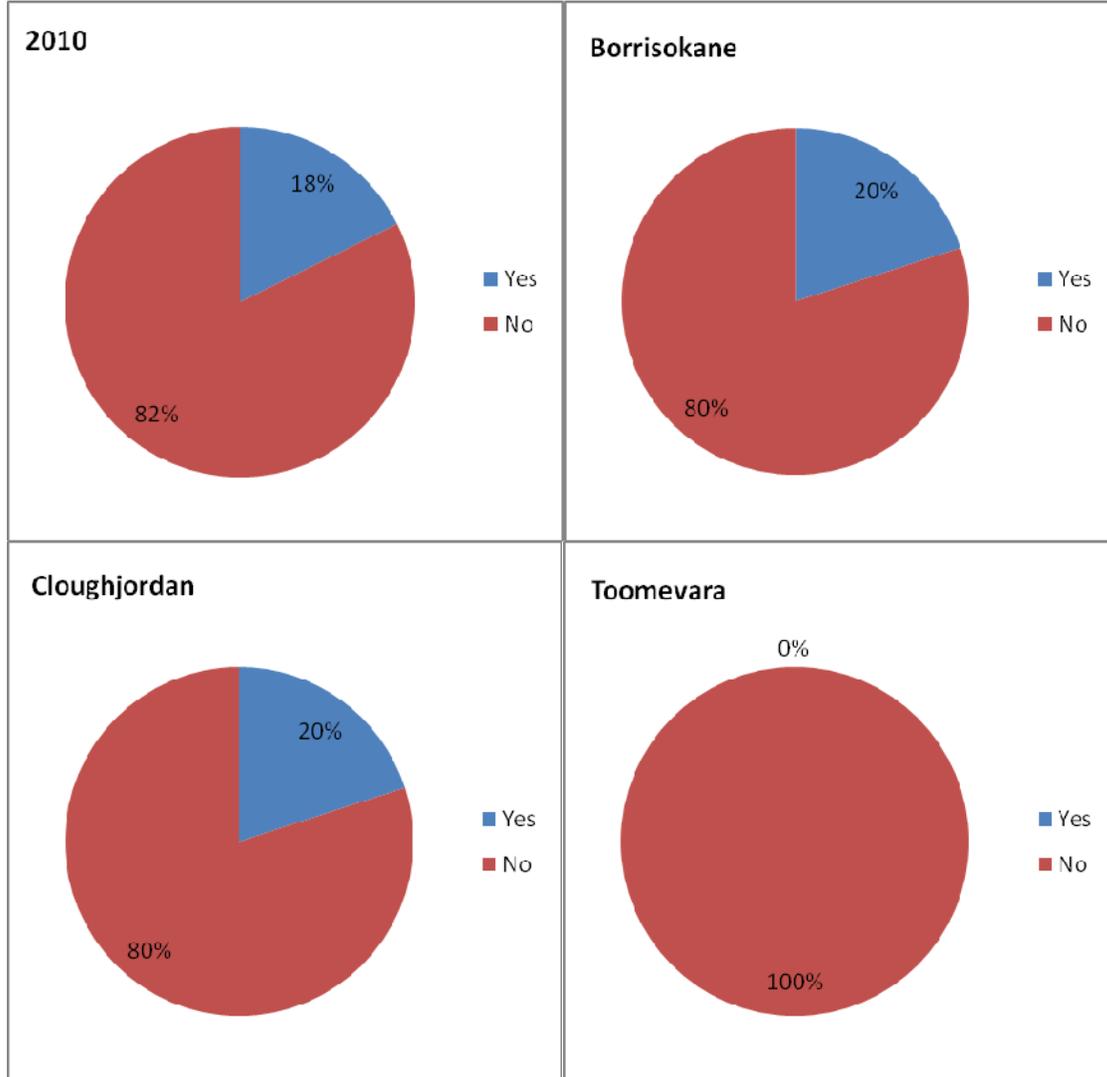


Figure 25. If yes, did you apply for grant supported insulation upgrades?

## 4 Conclusion

This report presents the results of the 2<sup>nd</sup> baseline socio-economic analysis of the SERVE region. The information and results presented were gathered through the surveying of three villages, namely Borrisokane, Cloughjordan and Toomevara, using a specially prepared questionnaire. The survey was sent by post and contained a cover letter, the questionnaire with instructions included, a FREEPOST return envelope and a lottery scratch card as an incentive.

The questionnaire consisted of three main groups of questions (current status of RES / RUE; Attitudes / Opinions; Interest / Participation) and the results are grouped and presented accordingly. In order to gain a further insight, a separate analysis of the selected parameters was performed.

All results for the 2010 survey have been compared with results of the 2008 survey, in order to allow easy identification of differences and changes in perception and attitudes. Looking at the results, it is notable that regarding the status of renewable energy sources utilisation within the region there are no considerable changes within the last two years. The majority of the respondents utilises fossil fuels, namely heating oil, for heating and hot water preparation. Biomass has a share of 8% for both heating and hot water preparation, while other renewables like solar collectors and heat pumps have a share below 1%, indicating the possibilities for increasing their contribution.

The influence of the economic and financial crisis is also notable in the results and answers to various questions. For example, there is decrease in the percentage of people who see policies for protecting the environment as a motivation to innovate and also an increase of those who would give economy priority over environment protection.

Most people stated that they would participate in renewable energy and energy efficiency training programmes as well as devote their time to renewable energy and energy efficiency. However, in comparison with 2008 results, a considerably lower percentage of respondents stated their willingness not participate with financial contributions, which can also be explained as a result of the economic crisis.

According to the workplan related to the socio-economic analysis, a third survey is planned to be performed at or near the end of the SERVE project, which will enable to identify trends in attitudes, opinions and knowledge in the SERVE region within the period of five years of the project running.

## Annex I: Baseline study questionnaire

### A) CURRENT STATUS OF Renewable Energy / Energy Efficiency utilisation

A1. What type of fuel/energy do you currently use for **space heating** in your home (check all that apply):

1	electricity	
2	heating oil	
3	gas	
4	coal	
5	biomass (fuelwood or similar)	
6	solar collectors	
7	turf	
8	heat pumps	

A2. What type of fuel/energy do you currently use for **heating hot water in your home** (check all that apply):

1	electricity	
2	heating oil	
3	gas	
4	coal	
5	biomass (fuelwood or similar)	
6	solar collectors	
7	turf	
8	heat pumps	

#### Comments

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A3. What type of **energy saving measures** have you **implemented in your house** to date (check all that apply):

1	upgrading house insulation	
2	installing better insulated windows (double glazing)	
3	purchasing more energy efficient equipment (refrigerator, washing machine)	
4	installing energy saving lightbulbs	
5	other (please specify _____)	

#### Comments

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A4. How would you rate your **energy costs** (costs for heating, hot water and electricity):

1	low – I could easily increase my energy consumption	
2	acceptable – I still can afford with not much efforts	
3	significant – It is important part of my home budget	
4	high – I have to be very careful about this	
5	too high – I can not pay for my energy costs / I have to reduce other costs	

#### Comments

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**B) ATTITUDES/OPINIONS**

B1. In general, **how informed do you feel about issues** related to **renewable energy** sources and **energy efficiency**?

1	Very well informed	
2	Fairly well informed	
3	Fairly badly informed	
4	Very badly informed	
5	Don't know	

B2. Please tell me how you feel about the following statement: **'I am happy to buy environmentally friendly products even if they cost a little bit more'**

1	Totally agree	
2	Tend to agree	
3	Tend to disagree	
4	Totally disagree	
5	Don't know	

**Comments**

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B3. In your opinion, **to what extent do the following factors influence your "quality of life"?**

	Very much	Quite a lot	Not much	Not at all	Don't know
1) State of the environment	1	2	3	4	5
2) Economic factors	1	2	3	4	5
3) Social factors (sense of community, social cohesion, etc.)	1	2	3	4	5

B4. To which of the following two opinions do you feel the closest to? **Are policies aimed at protecting the environment...?**

1	A motivation to innovate	
2	An obstacle for our economic performance	
3	Don't know	

B5. And thinking about environmental protection, to which of the following two opinions do you feel the closest? **Environmental protection...**

1	Must be given priority over the competitiveness of the economy	
2	Must not be given priority over the competitiveness of the economy	
3	Don't know	

**Comments**

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**C) INTEREST/PARTICIPATION**

C1. Please express your willingness to participate in **training programmes** (including **workshops or seminars**) related to renewable energy sources and energy efficiency:

1	I am very interested and would definitely participate	
2	I would probably participate	
3	I am not interested	
4	If not, why not? _____	

C1a. If the answer to the previous question is 1 or 2, please provide **more details regarding the content of the training programme** for which you would be interested:

1	General introduction to renewable energy	
2	Introduction to renewable energy sources	
3	Specific information about a renewable energy source (please specify, ex. wood, wind, solar, wave, geothermal _____)	
4	Introduction to energy efficiency measures	
5	Specific information regarding a particular energy efficiency topic (please specify, ex. house insulation, heating controls, new building design _____)	
6	Other (please specify _____)	

C2. Would you be interested to periodically **receive information** regarding renewable energy sources utilisation and energy efficiency:

1	Yes	
2	No	

C2a. If the answer to the previous question is 1 please select the **information sources** which you would prefer (up to two):

1	newspapers	
2	TV	
3	radio	
4	internet	
5	mobile text alerts	
6	other ( _____ )	

**Comments**

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C3. Please express your willingness to **participate in renewable energy or energy efficiency projects** in your **local community**:

1	I would be willing to devote my time and contribute financially if possible	
2	I would be willing to contribute financially if possible	
3	I would be willing to devote my time if possible	
4	I would not be willing to participate	

**Comments**

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C4. Have you heard of the **SERVE** project:

1	Yes
2	No

C4a. If yes, did you apply for **grant supported insulation upgrades**?

1	Yes
2	No

C4b. If no, please specify **why not** \_\_\_\_\_

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**D) GENERAL QUESTIONS**

**D1. Gender**

1	Male
2	Female

**D2. Age**

- 1  Aged 17 - 25
- 2  Aged 26 -60
- 3  Aged over 60

**D3. Education**

1	No formal education
2	Primary school
3	Secondary school
4	University

**D4. Number of persons living in your household?**

\_\_\_\_\_ persons

**D5. In the last six months, what was the *average monthly income* of your household?**

1	less than 1000 EUR
2	1000 – 2000 EUR
3	2000 – 4000 EUR
4	4000 – 8000 EUR
5	more than 8000 EUR

D6

**Additional**

**Comments**

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