

SURVEY ON PUBLIC OPINION ON THE LEVEL OF AWARENESS OF ENERGY EFFICIENCY

ENERGIJA U NAŠEM DOMU – ŽIVIMO KVALITETNIJE, PLAĆAJMO MANJE
www.energetska-efikasnost.me



Vlada Crne Gore i Ministarstvo za ekonomski razvoj pokrenuli su nacionalni projekat podsticanja energetske efikasnosti pod nazivom „Godina energetske efikasnosti u Crnoj Gori“.

Preduzimanjem različitih mjera energetske efikasnosti u svom domu: spoljnom izolacijom zidova, korišćenjem kvalitetne stolarije, izo-stakala, štednih sijalica, aparata za domaćinstvo A-kategorije, solarnih kolektora i ostalih obnovljivih izvora energije...

...građani Crne Gore mogu ostvariti značajne uštede u korišćenju energenata i pri tom, uz manje troškove, živjeti kvalitetnije.



Podgorica, June 2009.

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BACKGROUND INFORMATION

Ministry for Economic Development with support of GTZ - and Federal Ministry for Cooperation and Development of the Republic of Germany, has designed the project 'The Year of Energy Efficiency'. Within the scope of the project, 17 measures have been prepared, which have for their focus different target groups: from households to economy and public sectors.

With the purpose of strengthening awareness among the citizens of importance and possibilities of energy efficiency implementation, the CATI research on public familiarity with energy efficiency in households was carried out in October 2008. In order to continue with informing and educating the public on the importance of and the need for rational consumption, the Ministry for Economic Development with support of GTZ proceeds with the implementation of similar surveys.

RESEARCH METHODOLOGY

The research on public opinion on the level of awareness of energy efficiency, for the needs of the Ministry for Economic Development and GTZ, was conducted by CEED Consulting from Podgorica. The research was conducted by using quantitative (face-to-face) and qualitative (focus groups) research methods.

Quantitative research was carried out on the sample of 454 respondents, i.e. household representatives living in their own house/apartment. The MONSTAT data on the number of adult citizens in Montenegro served as a starting basis for the creation of a representative sample¹.

Table 1. Review of the sample structure by region and municipalities

	No OF QUESTIONNAIRES	% PARTICIATION IN THE SAMPLE
Podgorica	90	19,8
Nikšić	61	13,4
CENTRAL REGION	151	33,3
Bijelo Polje	60	13,2
Berane	45	9,9
Pljevlja	46	10,1
NORTHERN REGION	151	33,3
Ulcinj	42	9,3
Bar	35	7,7
Budva	40	8,8
Herceg Novi	35	7,6
SOUTHERN REGION	152	33,4
TOTAL:	454	100,0

¹ Representativeness of the sample implies that selected units of observed group, or population have all characteristics of total population.

The questionnaire, designed with the aim of conducting this research, contained 30 questions and for data acquisition a team of 14 polltakers was hired. The polltakers attended one-day training to introduce them to the questionnaire content, the goal of the research, the manner of data collection and the deadlines for completion. Also, during the field work, the promotion material was distributed to the citizens, which additionally contributed to their informing and familiarity with the energy efficiency.

CEED Consulting maintained constant communication with polltakers during their field work. Certain number of questionnaires was checked by phone, after which logical control followed. Data entry was performed in Microsoft Excel and data processing with necessary logical controls was performed in SPSS program (Statistical Package for the Social Sciences). SPSS is a software program for data processing and analysis used in market research, education institution research, etc.

Quantitative research was carried out through group focus discussions among household representatives familiar with the activities and energy efficiency measures. There were three focus groups in Podgorica, Niksic and Kotor organized with the aim of more deep comprehension of stands, motives and minds of respondents and their (no)reactions on promotional activities.

The analysis of given results is presented in this unique report and includes all results of both quantitative and qualitative researches.

Having in mind the applied methodology and the manner of project implementation, the given results truly reflect the level of awareness of energy efficiency and its importance.

ANALYSIS OF THE RESULTS

In order to get better insight into public informing and strengthening awareness of the importance energy efficiency, both quantitative and qualitative researches have been carried out, which included several parts:

- Energy consumption in household,
- Energy efficiency – definition and promoting activities,
- Energy efficiency measures, and
- Demographic characteristics of respondents.

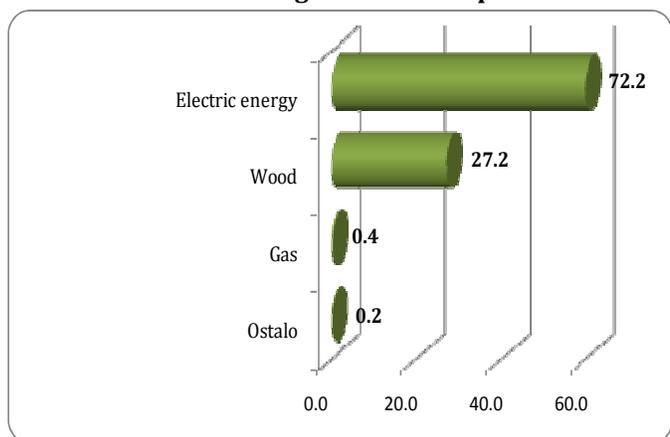
1. ENERGY CONSUMPTION IN HOUSEHOLDS

Three quarters of respondents most often uses **electric energy** in the household, while in considerably lower percent they use wood (72.2% and 27.2% respectively).

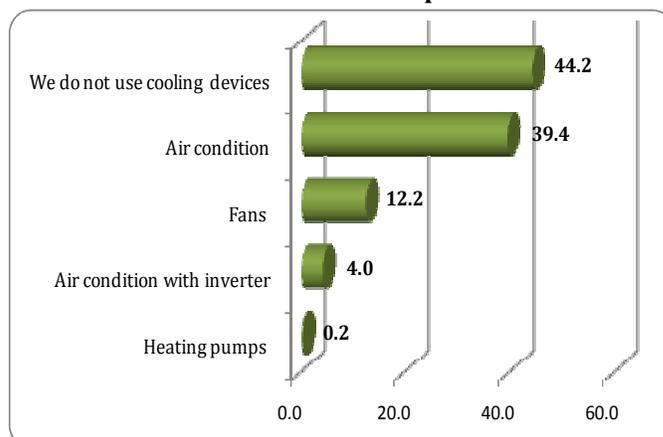
The selection of energy-generating product used for **heating in the winter period** mostly depends on the residential conditions and the region people live in. The given results show that respondents most often use wood and electricity for heating (Graph 1). More detailed insight shows that people living in the Northern or Central region most often choose wood for heating, while citizens on the south use electricity.

Two fifths of respondents use standard air conditioners **for cooling in the summer period** (Graph 2). This is particularly characteristic for the citizens living in the central and Southern region, which is conditioned by the climate in these areas. It is important to highlight that two fifths of respondents said that they do not use air conditions – people who live on the north.

Graph 1. Energy-generating products used for heating in the winter period



Graph 2. Cooling devices used in the summer period

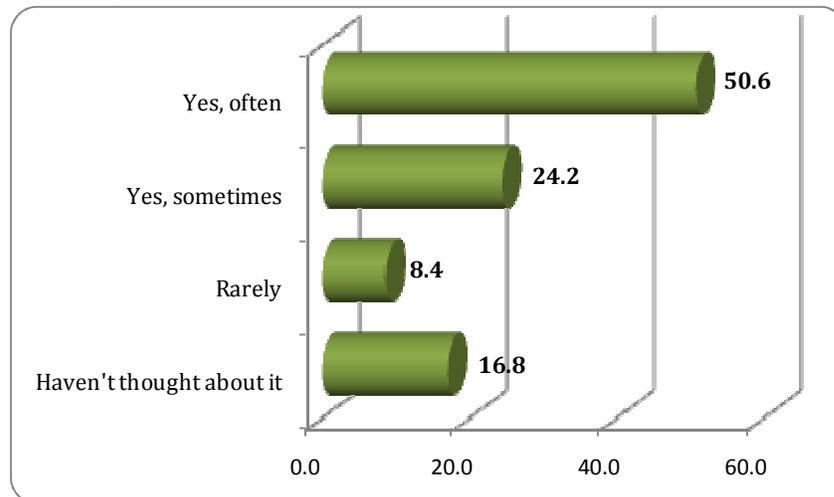


Every second respondents *often thought* about the ways to decrease their total electricity bill in the household, while every fourth respondents *sometimes thought* about this (Graph 3). In order to decrease their energy consumption, 42.4% respondents implements some of the following

measures: rational energy use, use of energy saving light bulbs, as well as using cheap tariffs and gas.

Women often thought about decrease of electricity bill, which is reasonable, since they are 'recognized' as persons who take care of the household. Also, women are the ones who more often, in comparison to men, undertake some of the energy saving measures.

Graph 3. Do you consider to decrease the electricity bill in your household?



2. ENERGY EFFICIENCY – DEFINITION AND PROMOTION ACTIVITIES

Three fifths of respondents (59.8%) knew and assumed that they knew, but they were not sure what the term **energy efficiency entails**. Most often, they defined this term as rational energy use and energy saving (Graph 4).

Men knew and assumed that they knew what the term energy efficiency entailed. On the other hand, women were those who most often did not know what the term energy efficiency stands for.

Participants of focus groups mostly defined energy efficiency as energy saving, rational energy consumption and more efficient usage of energy resources. As the ways of achieving energy efficiency, they pointed out energy saving light bulbs, more responsible use of home appliances and house/apartment insulation.

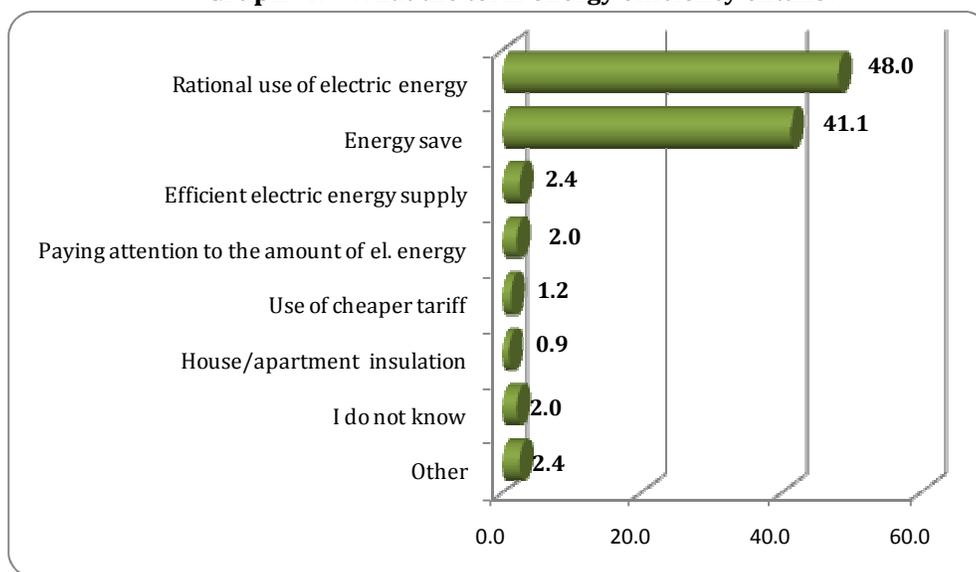
„Energy efficiency means purpose and efficient energy use.“

The results of CATI research² showed that the respondents were less familiar with the term energy efficiency – 36.7%³ stated that they knew or assumed that they knew what this term entailed. At that time, they defined energy efficiency as rational energy use and energy saving.

² CATI research on public awareness of energy efficiency in the household, October 2008

³ “Yes” + „I suppose I know, but I am not sure“ = 23.6% + 13.1% = 36.7%

Graph 4. What the term energy efficiency entails?



Almost every third respondent (31.3%) was familiar with the fact that **The Year of Energy Efficiency** is underway in Montenegro. In order to citizens be better informed about the activities of the project concerned in the following period, it is necessary to undertake more active promotion measures. Both men and women are familiar to the same extent that The Year of Energy Efficiency is underway.

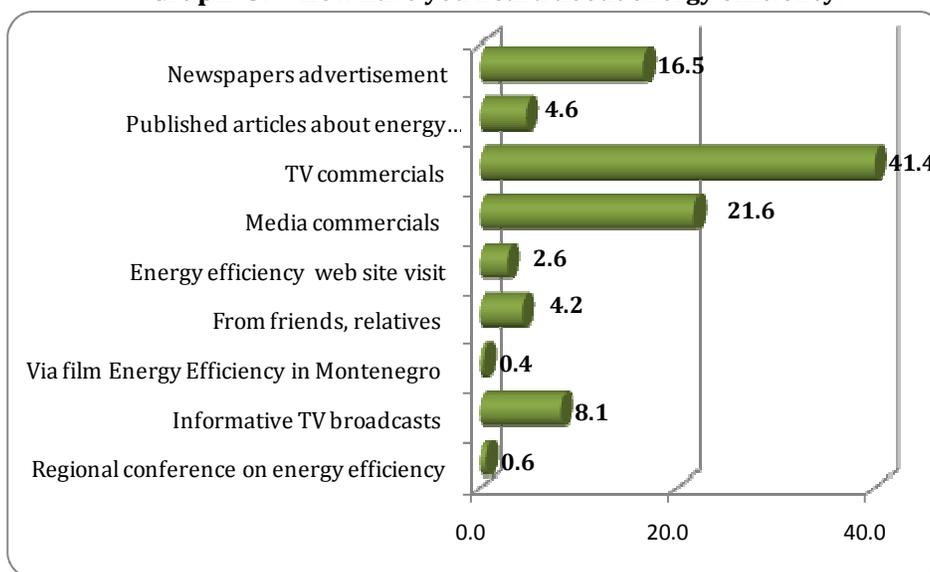
Efficient way of launching information to the citizens is achieved through electronic and printed media, which given results confirm. Namely, two fifth of respondents (63.0%) noticed **in the media** information related to rational energy consumption by increasing energy efficiency. Men more often notice mentioned information in the media.

TV commercials (videos), advertisement on the radio and in newspapers are the most frequent ways how people heard of energy efficiency (Graph 5). These ways are equally stated both by men and women.

Participants of the focus groups assessed promotion activities and campaign as „informative, distinctive and likable“. Even in the following period it is necessary to launch information regarding energy efficiency with the focus on „the ways of rational energy consumption and purchase terms of energy saving devices“.

The results of CATI research show that two fifths of respondents noticed in the media information about rational energy consumption by increasing energy efficiency.

Graph 5. How have you heard about energy efficiency?



Energy Efficiency Logo has been spontaneously recognized by every fourth respondent (25.9%). These respondents have seen the logo on TV and in newspapers (84.0% and 11.7% respectively). The logo has been more often recognized by male respondents.

Results found show that the web site has not been recognized as a significant way of informing the citizens about a certain topic. Furthermore, only 6.9% of respondents have visited the **web site** about the energy efficiency in Montenegro and have assessed information provided as useful – information on rational consumption, characteristics of saving light bulbs, devices used for energy efficiency and so on. Web site has been mostly visited by men and they assessed provided information as useful.

Two thirds of the respondents (65.3%) have noticed or watched **TV commercials** about energy efficiency. Slightly higher percentage of men has watched TV commercials in comparison to female respondents.

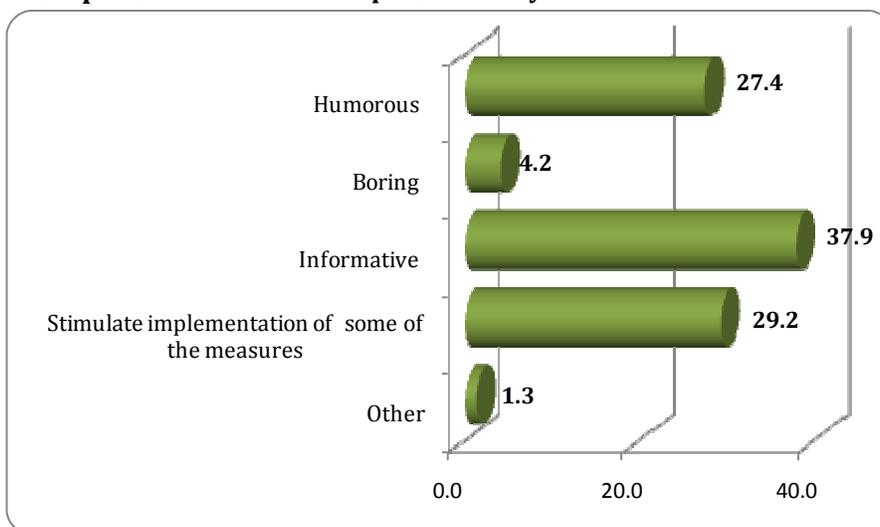
Commercials broadcasted have provoked different respondents' impressions, but firstly, these are believed to be informative, as well as simulative for making of certain changes and funny (Graph 6). Women, more than in average, state that these commercials are informative and they stimulate some of aforementioned measures to be implemented.

General impression of the focus groups' participants in Podgorica, Niksic and Kotor is that the TV commercial is "attractive, funny and extraordinary, because it inspires people to think about energy efficiency". Also, participants from Niksic and Kotor pointed out that, beside all mentioned characteristics and several advantages, these measures require huge financial resources that cannot be found in the moment of crisis.

Aiming to **improve promotional campaign so far**, focus groups’ participants pointed out that that the following is needed:

- Launch more commercials on the energy efficiency topic which will be on air in the prime time and on different TV channels,
- Conduct a half-hour educational show which will emphasize the importance of efficiency, specify measures required for its implementation, present a difference in energy consumption of old and new energy-saving devices, as well as present prices and terms of purchase of these devices,
- Organize parties under the name “Use the energy reasonably”,
- Working on education of youth– primary and high school students – in order to improve the awareness on the importance of energy efficiency implementation.

Graph 6. What kind of impression did you take from TV commercials?



Respondents have shown a low level of knowledge in defining terms like energy bus, energy overview of a building and passive house. Only 3.5% of respondents have defined **energy bus** – it is the bus which promotes energy efficiency activities, or it is a bus that runs using energy efficient system. Men showed better knowledge regarding this topic.

Only 9.9% defined what the term of **energy overview of a building** means – it has to deal with the analysis of buildings’ state with purpose of increasing the energy efficiency, analysis of rationality in electricity consumption, i.e. measurement of the electricity consumption, installations checking and checking of consumption in a building. Both male and female respondents showed above average familiarity with this term.

Every tenth respondent (10.3%) believe that **passive house** is considered as a house which rationally consume electricity, or it has to deal with an energy efficient house and a house not consuming the electricity. Men more often have defined the passive house term.

Results found earlier show low level of awareness of citizens regarding the aforementioned terms and even their wrong explanations. Due to this, it is needed to use the existing promotional activities (newspaper, billboards, articles and so on.) with purpose of additional informing and familiarizing with them.

3. ENERGY EFFICIENCY MEASURES

Activities for improving measures of energy efficiency, on a scale 1-the least important to 10-the most important, are rated with above 5 marks. Activities of introducing free of charge telephone line for informing and advising the citizens were rated with highest mark (7.78), as well as distribution of flyers and other promotional material (6.64), Table 2. For all stated activities, it has been noticed that respondents of both gender are aware of the activities of improvement the measures of energy efficiency.

Participants of focus groups from Podgorica as the most important activity rated the opening of show rooms and distribution of flyers and other promotional material. Those from Niksic as an activity of specific significance pointed out an introduction of free of charge telephone line and opening of an info centre; while participants from the south region, Kotor, considered as an important opening of info centre and distribution of flyers and other promotional activities.

„Today, not everybody has a computer, but all do have a phone and that is why it is important to introduce a free of charge telephone line.“ Niksic.

„Face-to-face contact is the most important since it enables you to get informed at one place.“ Kotor

Table 2. Average ratings of the activities for improvement of energy efficiency

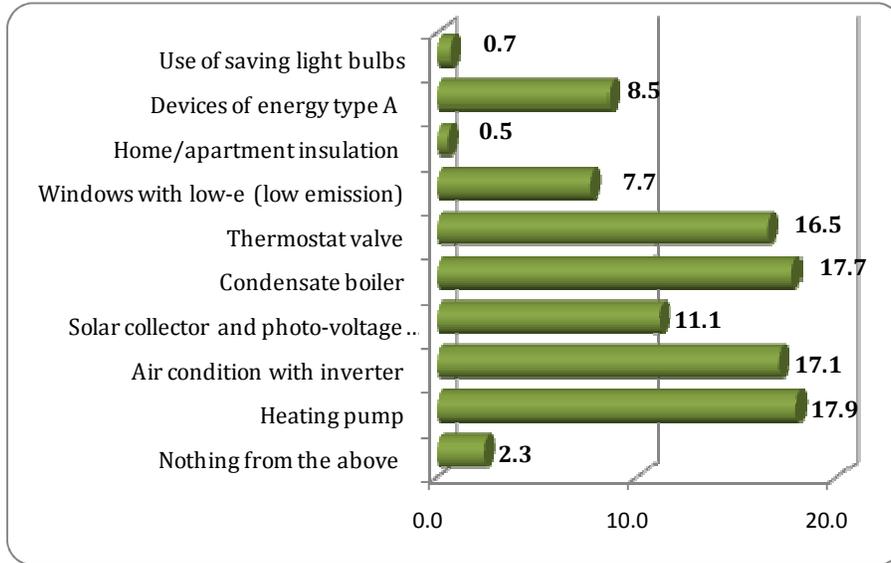
	Score
Opening of info centre for citizens with purpose of advising in a field of energy efficiency	6.41
Introducing of free of charge telephone line for informing and advising the citizens	7.78
Informing via web site	5.53
Show room about energy efficient products	5.64
Brochures and other promotion material	6.64
Seminars/workshops/conferences/round tables	5.42

Respondents show great **awareness** with certain **measures of energy efficiency** – saving bulbs, energy devices of type A, windows with e-low glasses (Graph 7). On the other hand, almost every fifth respondents is not aware with the thermostat valve, condensate boiler and air conditioning with inverter. The lowest level of awareness has been shown at respondents from the north of Montenegro.

More women than men have not heard of the devices of energy type A and thermostat valves, while men have not heard of the air conditioning with inverter and thermostat valves.

Results of CATI research show greater unawareness of respondents, or they mostly have not heard about the thermostat valve and condensate boiler (27.5%), air conditioning with inverter (25.0%) and solar collector (12.5%).

Graph 7. Which of the following measures of energy efficiency have you not heard of:



Every third respondent **uses** saving light bulbs in his household, while every tenth has isolated his house/apartment (Graph 8). It is important to state that two fifths of respondents have not undertaken either of mentioned measures in their households. More detailed analysis shows that respondents from the north at fairly lower percentage undertake these measures, in comparison with those from central and south region. Almost the same percentage of men and women has undertaken mentioned measures.

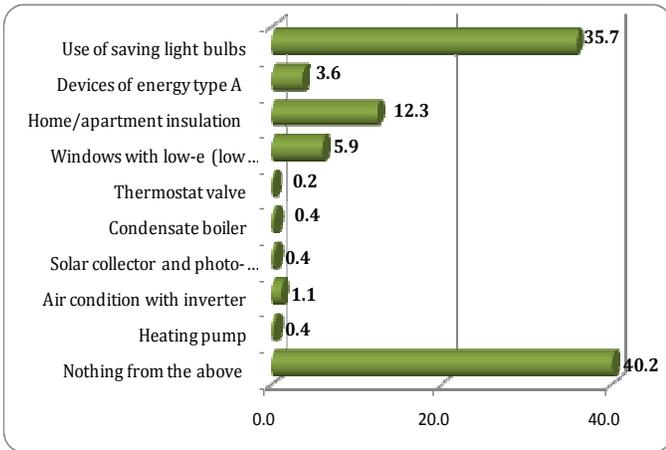
In CATI survey that was conducted, respondents have undertaken similar measures: nothing from the activities stated (37.5%), usage of saving light bulbs (33.2%), isolation of house/apartment (9.5%) and windows with e-low glasses (8.5%).

In the next period respondents **would be ready** to isolate house/apartment, use saving light bulbs and devices of energy type A (Graph 9). Respondents from the north and the central region and those having monthly income from 501 to 1,000 Euros would be ready to isolate their house/apartment.

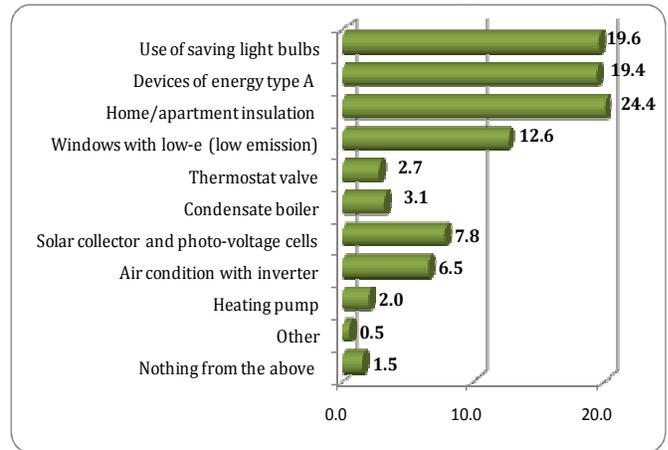
Women would be ready for introduction of devices of energy type A and isolation of houses/apartments, and men would be ready for introduction of windows with e-low glasses.

According to CATI survey, respondents would be ready for implementation of devices of energy type A and usage of saving light bulbs (24.4% and 21.6% respectively), isolation of houses and windows with e-low glasses (15.3% and 14.2% respectively).

Graph 8. Have you undertaken any of these measures of energy efficiency?



Graph 9. Would you be ready to undertake any of these measures of energy efficiency?

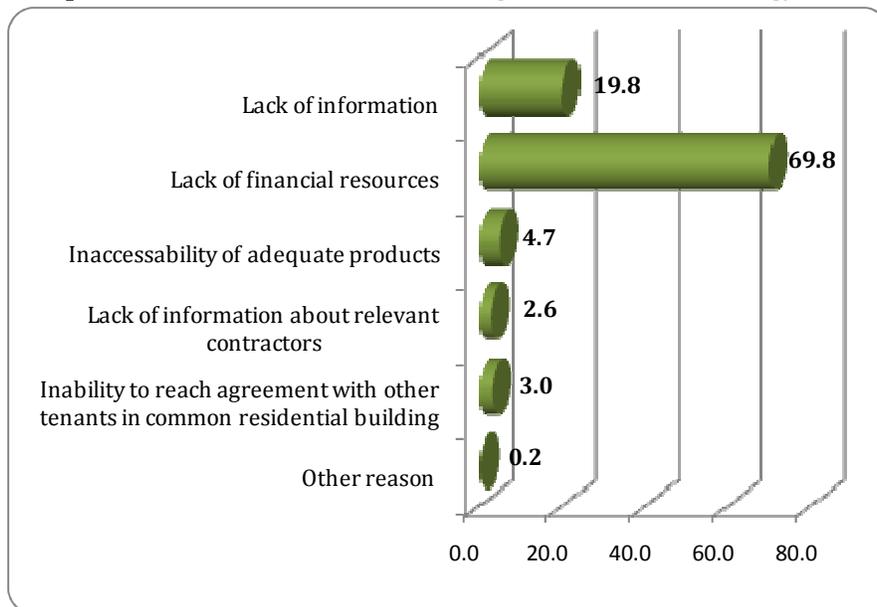


The most stated reason for not undertaking some of the mentioned measures is a lack of financial resources (Graph 10). Furthermore, every fifth respondent states a lack of information as well – undertake more intensive promotional measures aiming to improve awareness and better familiarity with recommended measures. More detailed analysis shows that respondents from the north mostly state a lack of financial support, while those from the south point out a lack of information.

Men as the major reason for non-implementation of the measures state lack of financial sources. Lack of adequate information is pointed out by women in more than average number of cases.

CATI survey also showed that reasons for non-implementation of measures are lacking of financial sources and lacking of information (72.0% and 14.6% respectively).

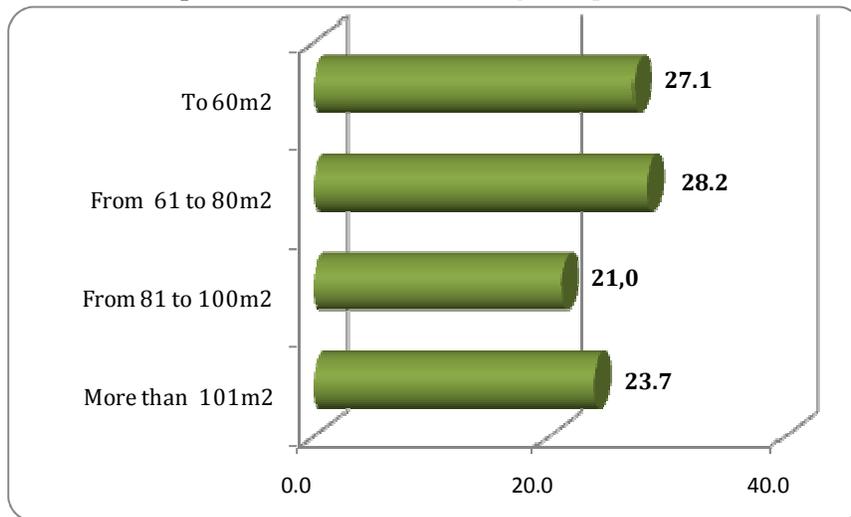
Graph 10. Reasons for not undertaking the measures of energy efficiency:



4. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Respondents in 71.6% live in a house and 29.4% in an apartment. In 28.2% of cases, these dwellings are between 61 and 80 m².

Graph 11. Surface of a dwelling a respondent lives in



Random sample and a choice of interviewed households' representative showed that 61.9% of respondents are women.

Every third respondent is between 30 and 45 years old and a little more than two thirds (68.7%) have a high school education.

Total monthly income of households, at every third respondent, goes from € 501 to 1000€.

THE SUMMARY OF RESEARCH

The research on public opinion on the level of awareness of energy efficiency was conducted with the aim of getting insight into citizens' familiarity with energy efficiency and their informing and education about the importance of rational use of energy efficiency in the household.

The research was carried out in nine Montenegrin municipalities, on the sample of 454 respondents who live in their own house/apartment.

- Three quarters of respondents very often in household use electric energy.
- For heating in the winter period, they use wood and electric energy, and for cooling in the summer period they use standard air conditioners.
- Every second respondent often thought about the decrease of total electricity bill in the household.
- The respondents showed **good familiarity with the energy efficiency concept**-three fifths of respondents (59.8%) knew and assumed that they knew but they were not sure what the term **energy efficiency entailed**.

The results of CATI research showed that the respondents were less familiar with the energy efficiency concept – 36.7% stated that they knew or assumed that they knew what this term entailed.

- In the CATI research, the respondents defined it as rational energy use and energy saving.
- Every third respondent was familiar with the fact that **The Year of Energy Efficiency** is underway in Montenegro.
- The results of CATI research showed that two fifths of respondents noticed in the media information about rational energy consumption by increasing energy efficiency.
- TV commercials (videos) are the most frequent ways how people heard of energy efficiency-two thirds of the respondents have noticed or watched TV commercials about energy efficiency.
- According to the opinion of citizens, these commercials are informative and they stimulate some changes.
- **Energy Efficiency Logo** has been spontaneously recognized by every fourth respondent.
- **The web site** has not been recognized as a significant way of informing the citizens about a certain topic.
- The respondents have shown a low level of knowledge in defining terms like **energy bus, energy overview of building and passive house**.

- **The introduction of free of charge telephone line** for informing and advising the citizens (with the score 7,78) and **distribution of brochures** and **other promotion material** (with the score 6.64) are assessed as the most significant activities for improvement of energy efficiency.
- Every fifth respondent is not familiar with **heating pump** (17.9%), **condensate boiler** (17.7%) and **air conditioner with inverter** (17.1%).

The results of CATI research show greater unawareness of respondents with the following items- they have not heard about **thermostat valve**, condensate boiler (27.5% respectively) and air conditioner with inverter (25.0%).

- Every third respondent uses saving light bulbs as the measure for energy saving in the household.
- Every fourth respondent would be ready **to insulate house/apartment**, and every fifth to use energy saving light bulbs and **devices of energy type A**.

The CATI survey showed that every fifth respondent would be ready to introduce the devices of energy type A.

- In the CATI research, for almost three quarters of respondents, the most stated reason for not undertaking some of the mentioned measures was the lack of financial resources.

ANEX 1. QUESTIONARRE

SURVEY ON PUBLIC OPINION ON THE LEVEL OF AWARENESS OF ENERGY EFFICIENCY

1. Which of the following energy-generating products you most often use in your household:

1. Electric energy
2. Wood
3. Gas
4. Other, specify_____

2. What energy-generating product do you use for heating in the winter period:

1. Electric energy ("on electricity")
2. Gas
3. Heating oil
4. Wood
5. Coal
6. Solar energy
7. Heating pumps
8. Other, specify_____

3. Which of the listed devices do you use for cooling in the summer period:

1. Standard air condition
2. Air condition with inverter
3. Fans
4. Heating pumps
5. Other, specify_____
6. We don't use cooling devices

4. Have you considered to decrease your electricity bill in your household:

1. Yes, often
2. Yes, sometimes
3. Rarely
4. Haven't thought about it

5. Have you taken any actions in your household in order to decrease your electric energy consumption?

1. Yes, specify measure_____
2. No

6 . Do you what term energy efficiency implies?

1. Yes

2. I suppose I know, but I am not sure
3. No (skip to Q9)

7. How would you define energy efficiency?

8. Have you noticed any information in the media regarding rational energy consumption by increasing energy efficiency?

1. Yes
2. No (skip to Q10)
3. I am not sure (skip to Q10)

9. How did you hear about energy efficiency (*multiple answers possible*):

1. Newspaper advertisement
2. Published articles about energy efficiency (newspapers, magazines, Internet, etc.)
3. TV commercial
4. Radio advertisement
5. Energy efficiency web site visit
6. From a friend, relative
7. Via film energy efficiency in Montenegro
8. Informative TV broadcasts
9. Regional conference on energy efficiency
10. Other, specify _____

10. Do you recognize this logo (*if the respondent doesn't recognize show him a card*)?

1. Yes, where did you see it _____
2. No (skip to Q12)

11. You saw the logo:

1. Describe where _____
2. I am not sure

12. Have you visited the web site energy efficiency in Montenegro (www.energetska-efikasnost.me)?

1. Yes
2. No (skip to Q14)

13. Have you found information on the site useful:

1. Yes, specify _____
2. No

14. Are you aware that the Year of Energy Efficiency is underway in Montenegro?

1. Yes

2. No

15. Have you noticed promoting TV commercials on energy efficiency?

1. Yes
2. No (skip to Q17)

16. What impression those Tv commercials made on you (*choose only 2 answers*):

1. Humorous
2. Boring
3. Informative
4. Stimulate implementation of some of the measures
5. Other, specify _____

17. How would you define an Energy Bus and what is his purpose?

18. How would you define the term Energy Audit in buildings?

19. How would you define the term 'Passive House'?

20. Which of the following energy efficiency measures you would assess as important (*use the scale from 1- the least important to 10 - very important*):

1. Opening energy efficiency info-centre for providing information and advise to citizens _____
2. Establishment of the EE info-line free of charge for informing and advising _____
3. Informing through web site _____
4. Show room on energy efficiency products _____
5. Brochures and other promotion materials _____
6. Seminars/workshops/conferences/roundtables, etc _____
7. Other, specify _____

21. Among the following examples, is there any that you haven't heard of so far? (*specify only those you haven't heard of*)

1. Use of saving light bulbs
2. Devices of energy type A (*explanation: devices with minimal energy consumption*)
3. House/apartment isolation
4. Windows with low-e (low emission) (*explanation: windows with better isolation*)
5. Thermostat valve
6. Condensate boiler
7. Solar collector and photo-voltage cells
8. Air condition with inverter

9. Heating pump
10. Other, specify _____
11. Nothing of the above

22. Have you implemented any of energy saving measures in your household in the last *(multiple answers possible)*

1. Use of saving light bulbs
2. Devices of energy type A (*explanation: devices with minimal energy consumption*)
3. House/apartment isolation
4. Windows with low-e (low emission) (*explanation: windows with better isolation*)
5. Thermostat valve
6. Condensate boiler
7. Solar collector and photo-voltage cells
8. Air condition with inverter
9. Heating pump
10. Other, specify _____

23. Which of the following measures you would be willing to implement in your household? (*specify all measures you would implement*)

1. Use of energy saving light bulbs
2. Devices of energy type A (*devices with minimal energy consumption*)
3. House/apartment isolation
4. Windows with low-e (low emission) (*windows with better isolation*)
5. Thermostat valves
6. Condensate boiler
7. Solar collectors and photo-voltage cells
8. Air condition with inverter
9. Heating pump
10. Other, specify _____
11. Nothing of the above

24. Please specify the reasons for not implementing some of the mentioned measures?

1. Lack of information
2. Lack of financial resources
3. Inaccessibility of adequate products
4. Lack of information about relevant contractors
5. Inability to reach agreement with other tenants in common residential building
6. Some other reason, specify _____

SET OF DEMOGRAPHIC QUESTIONS

1. How many persons lives in your household:

1. Total number _____
2. Number of employed persons _____
3. Number of unemployed _____
4. Number of retired persons _____
5. Number of pupils _____
6. Number of students _____

2. Do you live in:

1. House, specify floor area _____
2. Apartment, specify floor area _____

3. Your level of education?

1. Primary school
2. Secondary school
3. Higher school/faculty
4. Other, specify _____

4. Gender:

1. Male
2. Female

5. Age

1. 15 to 29
2. 30 to 44
3. 45 to 59
4. 60 and more

6. What is the amount of total monthly income of your household (some of all incomes of household members)

1. Up to 350€
2. From 351 to 500€
3. From 501 to 1000€
4. From 1001 to 1500€
5. More than 1501€