



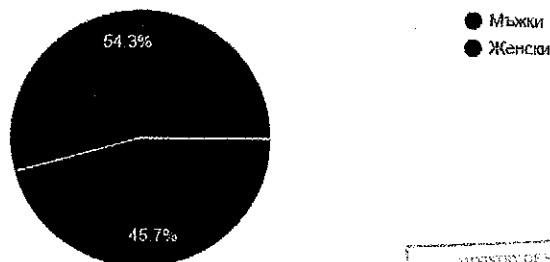
Questionnaire to evaluate the energy behavior of users

Results of the web survey in Bulgaria

Bulgaria has a total of **46 responses** submitted from respondents and according to them there is a presentation and analyses of the main results and identification of trainees' needs.

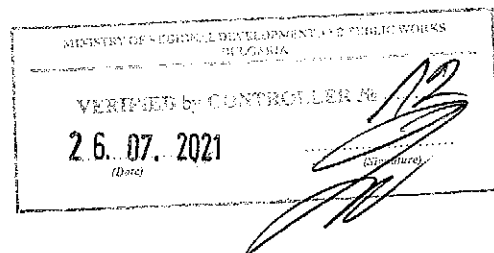
Пол

46 responses



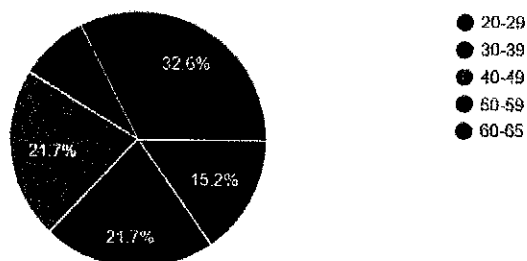
The respondents are:

- 54.3% Males
- 45.7% Females



Възраст

46 responses



The majority of respondents are between 60 and 65 years old - 32.6%

- 20-29 (15,2%)

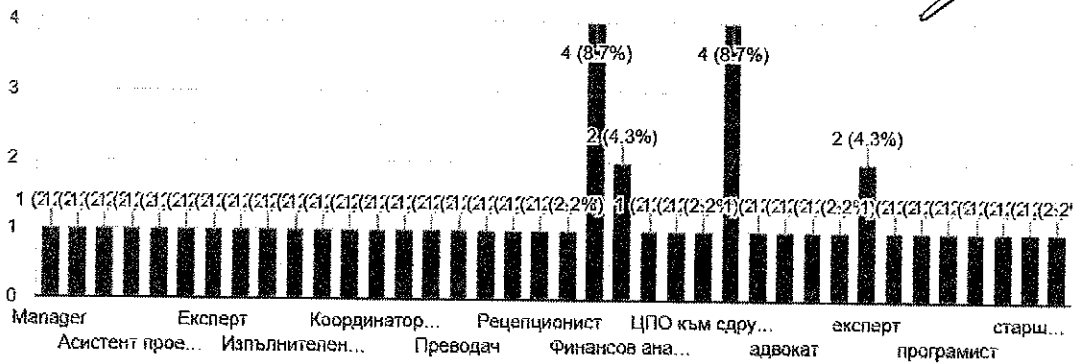
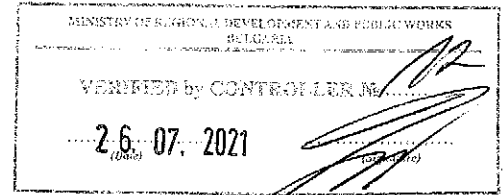


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- 30-39 (21,7%)
- 40-49 (21.7%)
- 50-59 (8.7%)
- 60-65 (32.6%)

Заемана длъжност

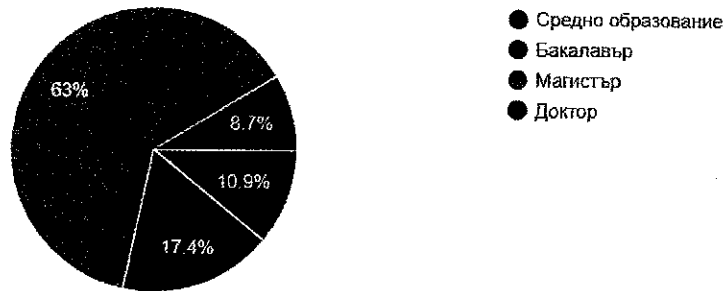
46 responses



Employment: We have a variety of employments, mayors, municipality administrators, company managers, researchers.

Образование

46 responses



Educational Background: most of the respondents own a master degree 63%, university degrees are 17.4% and high school education are 10.9%

- High School (10.9%)
- University (17.4%)

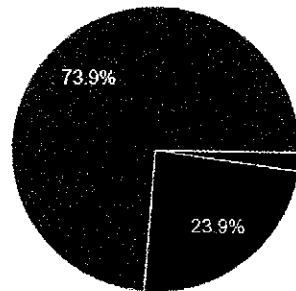


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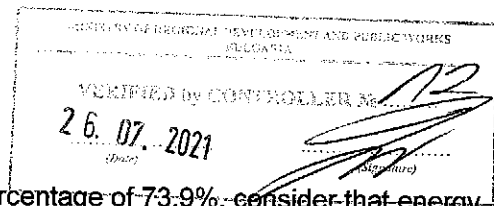
- Postgraduate (63%)
- Doctoral degree (8.7%)

Какво мислите за спестяването на енергия?

46 responses



- Няма нужда да пестим енергия
- Добре е да го правим
- Необходимо е

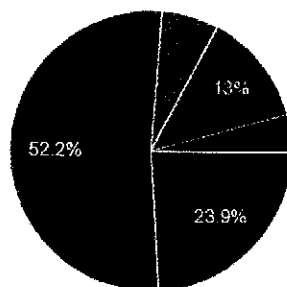


As shown above, the majority of the participants, a percentage of 73,9%, consider that energy efficiency is very important and vital.

- No need to save energy (2.2%)
- Is good to do it (23.9%)
- It is necessary (73.9%)

Енергоспестяваща мярка, която прилагате в ежедневието си ?

46 responses



- Изключване на лампи
- Настройка на температурата на климатика
- Рециклиране на хартия / пластмаса
- Изключване на офис техника
- Не прилагам

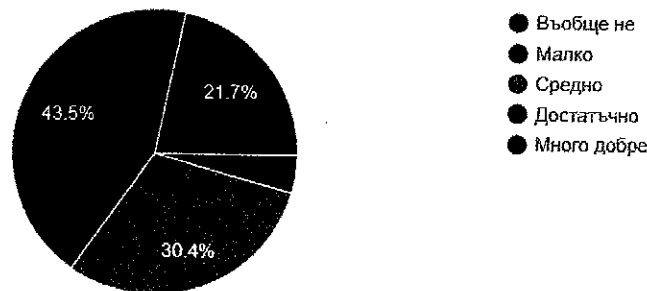
The most used energy saving measure is air conditioner thermostat setting – 52.2%

- Lights off (23.7%)
- Air conditioner thermostat setting (52.2%)
- Paper / plastic recycling (6.5%)
- Closing of office equipment (13%)
- I do not apply (4.3%)



Разбирате ли значението на възобновяемите енергийни източници?

46 responses

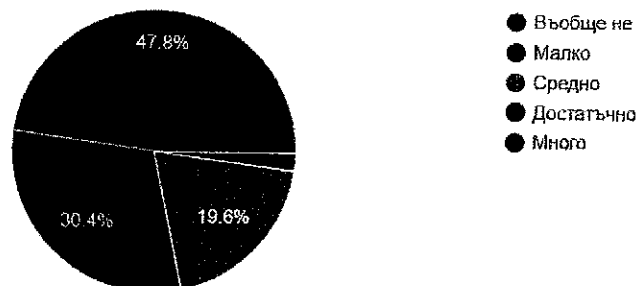


Most of respondents answered that they understand the importance of renewable energy sources enough – 43.5%

- Not at all (0%)
- A little bit (4.3%)
- Moderate (30.4%)
- Enough (43.5%)
- Very (21.7%)

Смятате ли, че е необходимо да се развият възобновяеми енергийни източници?

46 responses



Almost half of respondents answered that is necessary to develop renewable energy sources – 47.8%

- Not at all (0%)
- A little bit (2.2%)
- Moderate (47.8%)
- Enough (30.4%)
- Very (19.6%)

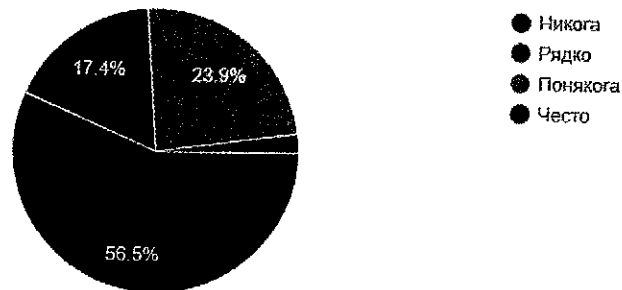


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- Very (47.8%)

Участвали ли сте някога в семинар за обучение по пестене на енергия?

46 responses

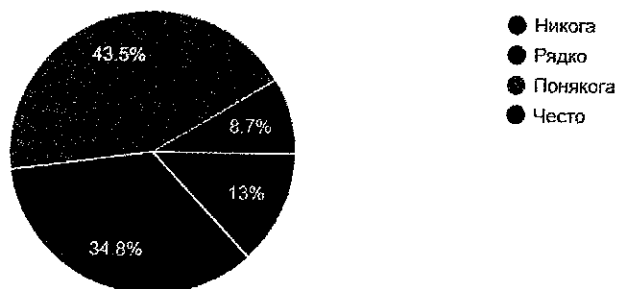


More than half of respondents answered that they have never participated in an energy saving training seminar –

- Never (56.5%)
- Rarely (17.4%)
- Sometimes (23.9%)
- Often (2.2%)
-

Участвали ли сте някога в енергоспестяваща дейност?

46 responses



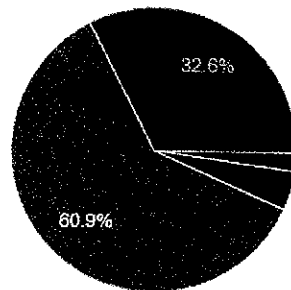
Most of respondents answered that they have been involved in an energy saving activity but only sometimes – 43.5%

- Never (13%)
- Rarely (34.8%)
- Sometimes (43.5%)
- Often (8.7%)



Колко важно е обучението за пестене на енергия?

46 responses



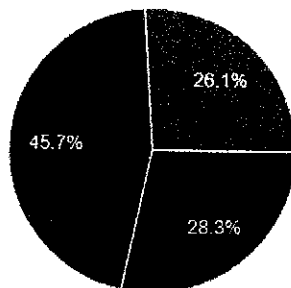
- Излишно
- Средно
- Необходимо
- Много необходимо

About 60% answered that energy saving training is necessary.

- Unnecessary (2.2%)
- Moderate (4.3%)
- Necessary (60.9%)
- Very necessary (32.6%)

Кое от посоченото техническо обучение се счита за най-подходящо?

46 responses



- Брошури / информационни материали
- Семинари
- Други дейности

Almost half of the respondents point that they prefer seminar trainings – 45.7%

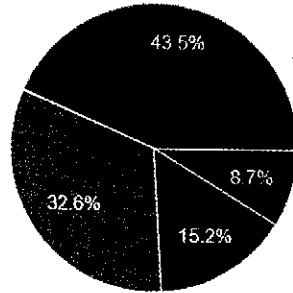
- Brochures (28.3%)
- Seminars (45.7%)
- Activities (26.1%)



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Изключвате ли осветлението, когато излизате от офиса за повече от 15 минути?

46 responses



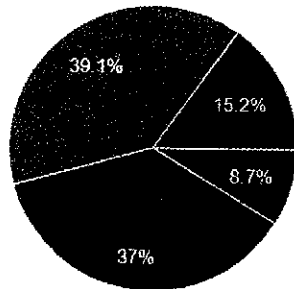
- Никога
- Обикновено не
- Понякога
- Винаги

Most of respondents answered that they always turn off the lights in the office – 43.5%

- Never (8.7%)
- Generally not (15.2%)
- Sometimes (32.6%)
- Always (43.5%)

Изключвате ли климатика, когато излизате от офиса?

46 responses



- Никога
- Обикновено не
- Понякога
- Винаги

Do you turn off the air conditioner when you leave the office?

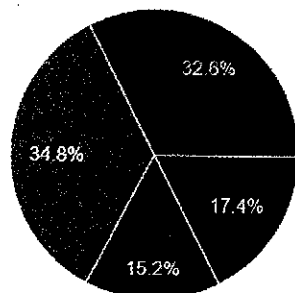
- Never (8.7%)
- Generally not (37%)
- Sometimes (39.1%)
- Always (15.2%)



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Изключвате ли личния си компютър, когато излизате от офиса?

46 responses



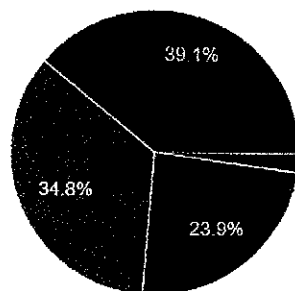
- Никога
- Обикновено не
- Понякога
- Винаги

Do you turn off your personal computer when you leave the office?

- Never (17.4%)
- Generally not (15.2%)
- Sometimes (34.8%)
- Always (32.6%)

Бихте ли се чувствали виновни, ако осъзнаете, че вашите действия пилеят енергия?

46 responses



- Никога
- Обикновено не
- Понякога
- Винаги

Most respondents answered that they would feel guilty if they understood that their actions waste energy – 39.1%

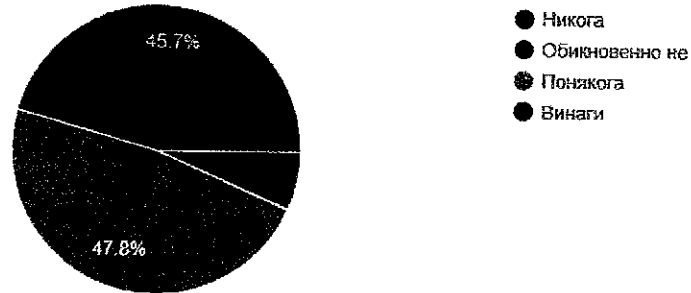
- Never (2.2%)
- Generally not (23.9%)
- Sometimes (34.8%)
- Always (39.1%)



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Доколко сте готови да използвате енергийни мерки в ежедневието си, което ще спести енергия?

46 responses

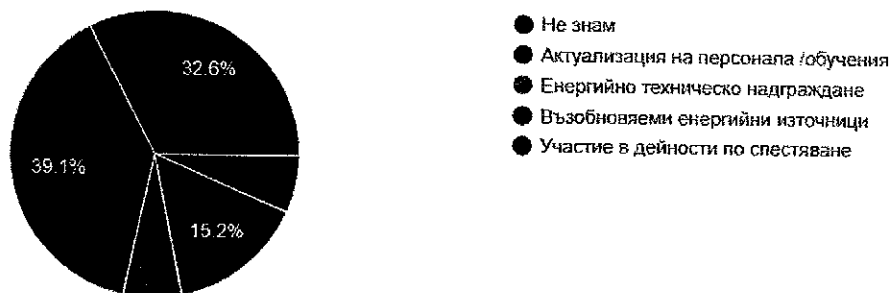


About 47.8% answered that they are ready to use energy saving measures, but only sometimes.

- Never (0%)
- Generally not (6.5%)
- Sometimes (47.8%)
- Always (45.7%)

Какви мерки за спестяване на енергия бихте предложили?

46 responses



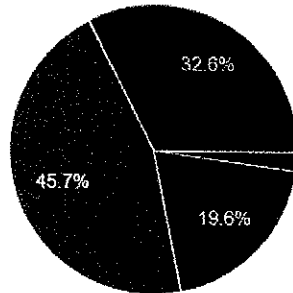
What kind of energy saving measures would you suggest?

- I don't know (6.5%)
- Staff update (15.2%)
- Energy upgrade (6.5%)
- Renewable energy sources (39.1%)
- Participation in activities (32.6%)



При закупуване на продукти критерият за висока енергийна ефективност ли е основен?

46 responses



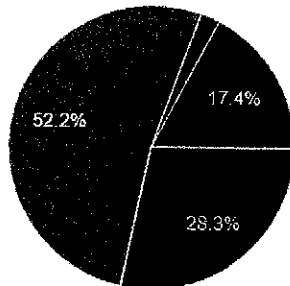
- Никога
- Обикновено не
- Понякога
- Винаги

When buying products is the criterion of high energy efficiency basic?

- Never (2.2%)
- Generally not (19.6%)
- Sometimes (45.7%)
- Always (32.6%)

Транспорт, който използвате, за да стигнете до работа

46 responses



- Автобус
- Мотор/Скутер
- Кола
- Колело
- Друго

About 52.2% answered that they use car to go to work.

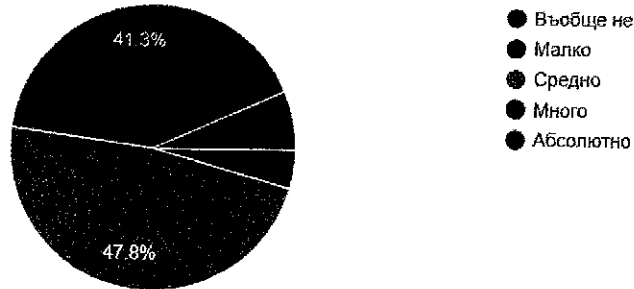
- Bus (23.8%)
- Motorbike (0%)
- Private car (52.2%)
- Bike (2.2%)
- Other (17.4%)



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Доколко определението за топлинен комфорт през лятото е важен за вас?

46 responses

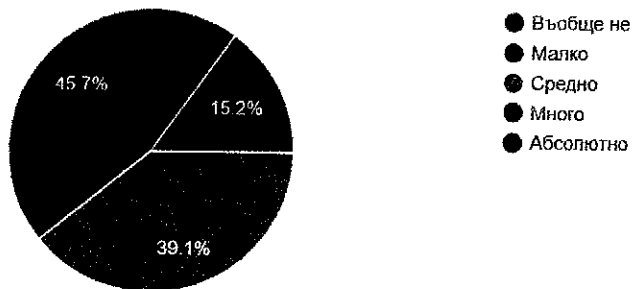


How much does the definition of thermal comfort express you in summer?

- Not at all (0%)
- A little bit (4.3%)
- Moderate (47.8%)
- Very (41.3%)
- Absolutely (6.5%)

Доколко определението за топлинен комфорт през зимата е важен за вас?

46 responses



How much does the definition of thermal comfort express you in winter?

- Not at all (0%)
- A little bit (0%)
- Moderate (39.1%)
- Very (45.7%)
- Absolutely (15.2%)

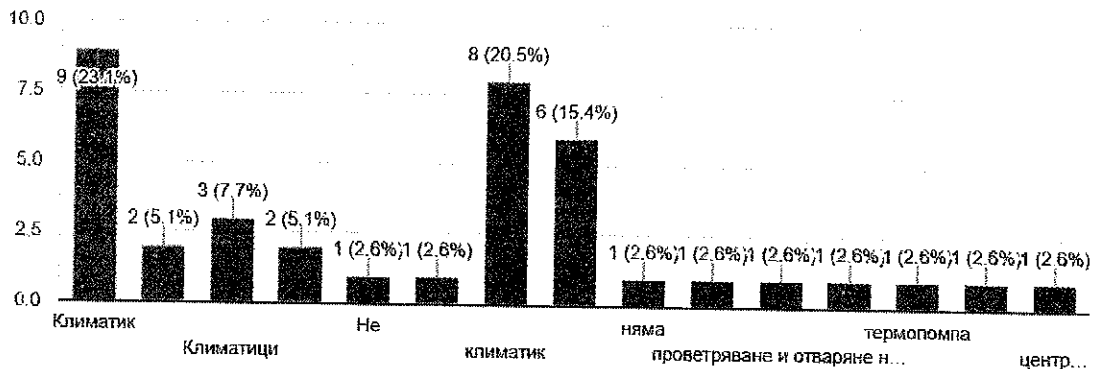
The average age of the buildings in which the respondents work is about 30 years old. Most of the buildings has plastic or aluminum window frame. About the energy certificate of the



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Система за охлаждане

39 responses



Analysis of the results and Identification of training needs

Based on the results that have come out of the web- survey we can make the following conclusions:

Background information

- the vast majority of the respondents are males 54.3 % at the age between 60 and 65 years old - 32.6%
- we have a variety of employments, mayors, municipality administrators, company managers, researchers, and most of them hold a master degree 63%

The level of understanding of the participant with regard to energy efficiency as well as the importance of RES

- The majority of the respondents, a percentage of 73,9%, consider that energy efficiency is very important and vital.
- The energy measure that is being used more in their daily life, at a percentage is air conditioner thermostat setting – 52.2%, followed by switching the lights off with 23.7% and Closing of office equipment with 13%.

Background information regarding the level of training of the participants and experience in activities linked to energy efficiency

- More than half of respondents answered that they have never participated in an energy saving training seminar 56.5 % and only 43.5% of the respondents have been involved in an energy saving activity.



- The majority of the respondents, 60%, consider trainings on energy related issues important and point that they prefer seminar trainings – 45.7% to raise awareness on the same issues.

The personal views of the participants in relation to energy efficiency and its importance
Specific questions that seek to identify the status of the current behaviour of the participants in applying energy efficiency in their everyday lives

- Most of respondents answered that they always turn off the lights in the office – 43.5% when they are out of the office for more than 15 minutes.
- Only 37% turn off their air conditioner when they leave the office and 32.6% turn off their computer when they finish and leave their working place.
- A percentage of 39.1% answered that they would feel guilty if they understood that their actions waste energy and 47.8% answered that they are ready to use energy saving measures.
- Participants suggested energy saving measure that would be beneficial - Renewable energy sources 39.1% followed by participation in activities 32.6%
- 45.7% of the participants take always into consideration the criterion of energy efficiency when buying a product and more than half of the respondents 52.2% use their car to go to work.

A technical question regarding the term “thermal comfort” and questions that relate to the building they current work in (for summer and winter period)

- 47.8 % of the respondents answered that the thermal comfort and issues related to it is important to them, while 45.7% responded the same for the winter season.
- With regard to the buildings in which the respondents work, it is around 30 years old.
- With regard to the window frame most of the buildings has plastic or aluminum frame and only 5% answered their window frame is old wooden one.
- Most of the respondents (90 %) answered that they are not aware of the existence of the energy certificate.
- Most of them answered that they use air conditioners for heating (about 80%) and the rest of the answers are divided between central heating and liquid gas heating.
- With regard to the Air conditioning system used for cooling responses are 100 %

Main conclusions:

- The majority of the participants understand the importance of energy saving measures
- Half of part participants have never participated in an energy saving training seminar

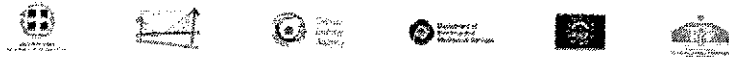


- A good percentage of the respondents take daily measures linked to energy efficiency
- A high number of participants are not aware with regard to the Energy Performance Certificate Category of the building they work in.
- Almost half of the respondents consider the thermal comfort and issues related to it as important in summer and winter period.

Selection of trainees

The list of trainees will include:

- The staff of RDA with BSC for SMES, who work under the project
- Several people from the Universities in Plovdiv
- Stakeholders, who work in public sector buildings from Plovdiv region municipalities
- Representatives from companies in the field of energy efficiency
- People, who apply energy efficiency measures in their everyday work



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ANNEX: QUESTIONNAIRE IN ENGLISH



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Questionnaire to evaluate the energy behavior of users

User behavior in buildings is a complex and thought-provoking issue and requires an interdisciplinary approach to better understand the subject. The energy behavior of users depends on social and environmental interactions, culture, climate, educational level, etc. The purpose of the following methodology is to improve energy saving and energy efficiency, focusing on evaluating the energy efficient behavior of users.

Email *

Valid email

This form is collecting emails. [Change settings](#)

Part 1 Information about the respondent

Description (optional)

Sex *

Male

Female



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Age *

- 20-29
- 30-39
- 40-49
- 50-59
- 60-65

Job title *

Short answer text

Educational Level *

- High School
- University
- Postgraduate
- Doctorate

Part 2 Survey of understanding of the respondent for energy saving

Description (optional)



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What do you think about energy savings? *

- No need to save energy
- Is good to do it
- It is necessary

Mention an energy saving measure that you apply in your daily life *

- Lights off
- Air conditioner thermostat setting
- Paper / plastic recycling
- Closing of office equipment
- I do not apply

Do you understand the importance of renewable energy sources? *

- Not at all
- A little bit
- Moderate
- Enough
- Very



Do you think it is necessary to develop renewable energy sources? *

- Not at all
- A little bit
- Moderate
- Enough
- Very

Survey of understanding of the respondent for energy saving

Description (optional)

Have you ever participated in an energy saving training seminar? *

- Never
- Rarely
- Sometimes
- Often

Have you ever been involved in an energy saving activity? *

- Never
 - Rarely
 - Sometimes
 - Often
-



Survey of the respondent's attitude towards energy saving

Description (optional)

How important is energy saving training? *

- Unnecessary
- Moderate
- Necessary
- Very necessary

Which of the following technical training is considered most appropriate? *

- Brochures
- Seminars
- Activities

Research on the behavior of the respondent to save energy

Description (optional)

Do you turn off the lights when you leave the office for more than 15 minutes? *

- Never
- Generally not
- Sometimes
- Always



Do you turn off the air conditioner when you leave the office? *

- Never
- Generally not
- Sometimes
- Always

Do you turn off your personal computer when you leave the office? *

- Never
- Generally not
- Sometimes
- Always

Would you feel guilty if you realized that your actions were wasting energy? *

- Never
- Generally not
- Sometimes
- Always



How willing are you to incorporate energy / measures into your daily routine that will save energy? *

- Never
- Generally not
- Sometimes
- Always

What kind of energy saving measures would you suggest? *

- I do not know
- Staff update
- Energy upgrade
- Renewable energy sources
- Participation in activities

When buying products is the criterion of high energy efficiency basic? *

- Never
- Generally not
- Sometimes
- Always



What means of transportation is used to get you to work? *

- Bus
- Motorbike
- Private Car
- Bike

The definition of thermal comfort is given and the user is asked if the definition expresses it in summer and winter respectively: "Thermal Comfort defines the state of mind in which a person does not desire any thermal change of the internal environment and expresses satisfaction with the prevailing conditions."

Description (optional)

How much does the definition of thermal comfort express you in summer? *

- Not at all
- A little bit
- Moderate
- Very
- Absolutely

How much does the definition of thermal comfort express you in winter? *

- Not at all
- A little bit
- Moderate
- Very

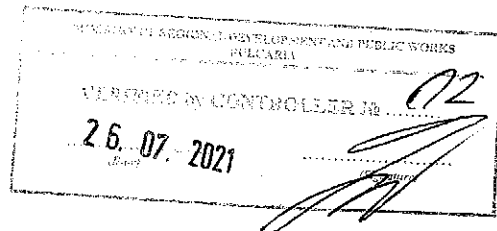


How much does the definition of thermal comfort express you in summer? *

- Not at all
- A little bit
- Moderate
- Very
- Absolutely

How much does the definition of thermal comfort express you in winter? *

- Not at all
- A little bit
- Moderate
- Very
- Absolutely



Collection of Data for the building

Description (optional)

Building age:

Short answer text

Orientation:

Short answer text



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Energy Performance Certificate Category:

Short answer text

Air conditioning system:

Short answer text

Heating system:

Short answer text

MINISTRY OF ENVIRONMENTAL PROTECTION AND PUBLIC WORKS
 REPUBLIC OF SERBIA
 CONTROLLED BY
 26. 07. 2021.
