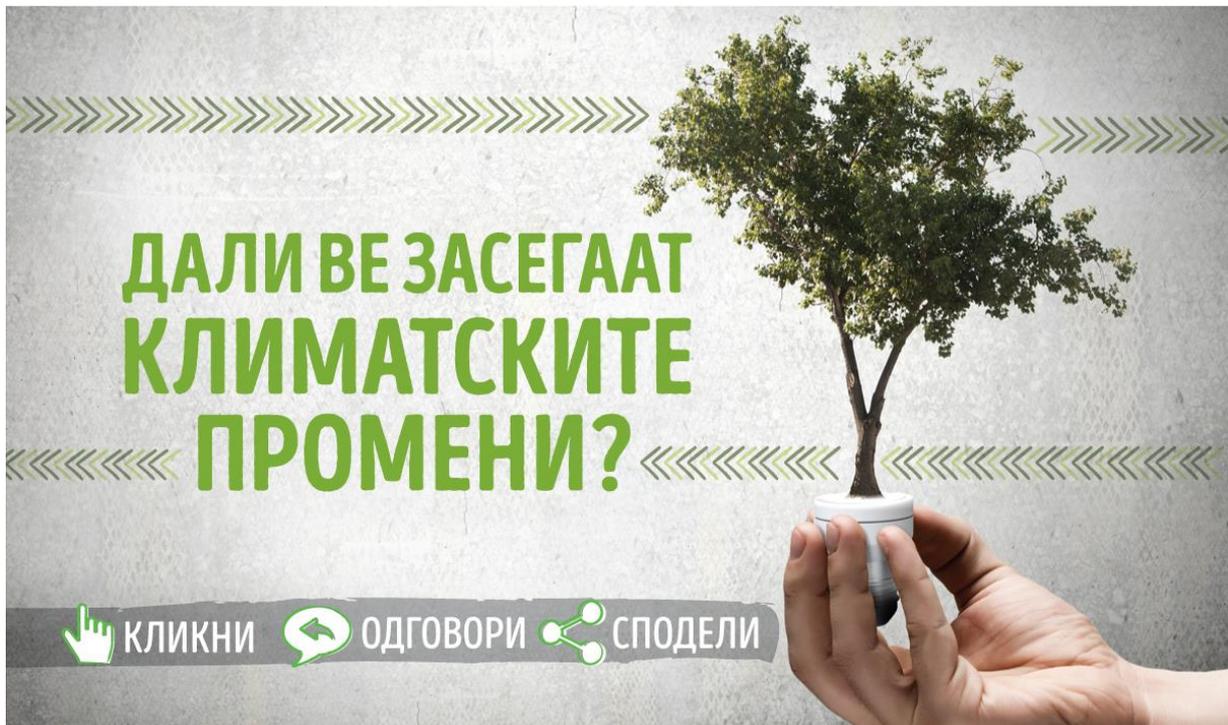




MINISTRY OF ENVIRONMENT AND PHYSICAL PLANNING

**CLIMATE CHANGE PERCEPTION AND
AWARENESS LEVEL:
AN ONLINE SURVEY OF THE CITIZENS OF THE REPUBLIC
OF MACEDONIA**



January, 2017

Acknowledgment

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*Empowered lives.
Resilient nations.*

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The Second Biennial Update Report on Climate Change is a significant national contribution to fulfilling the country's commitments to the UNFCCC.

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List of Acronyms

CC - Climate Change

EC - European Commission

EU - European Union

GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit

ICT - Information and Communication Technologies

MKC - Citizens of Macedonia

MOEPP - Ministry of Environment and Physical Planning

NGO - Nongovernmental Organization

DM- Decision-makers

REC - Regional Environmental Centre

SKC - Citizens of Skopje

TV - Television

UNDP - United Nation Development Programme

UNEP - United Nations Environment Programme

UNFCCC- United Nations Framework Convention on Climate Change

USAID - United States Agency for International Development

WB - World Bank

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SUMMARY

The United Nations Development Programme and the Ministry of Environment and Physical Planning of the Republic of Macedonia, in the frame of the Project Macedonia's Second Biennial Update Report, conducted an online survey in December 2016 to provide state of the art of the public perception of climate change and information level. The results from this survey updated the results of the public survey conducted in 2014 that informed Third National Communication on Climate Change about key incentives for and challenges to environmental and climate conscious behaviour. The current survey also provides updated information on main climate change information sources and perceived visibility of this topic in the media, as well as visibility of various climate change campaigns and projects.

The online questionnaire was distributed through professional mailing lists, and promoted through social media, such as Facebook and Twitter, in order to engage the general public. 583 completed surveys were collected in two weeks period, involving 71% of participants from ten municipalities of the city of Skopje and the rest from other 45 municipalities represented in the sample. Participants belong to various age groups, except for persons over 65 years, and had 5% more female respondents. The participants from the survey are with higher education, with 85% holding a university degree.

The survey shows that poverty and economic situation are the most pressing social problems, while climate change is perceived only as the third serious threat facing the society. Even so, the participants feel more knowledgeable about climate change, comparing to previous findings. Half of the participants consider they are informed about variety of climate change impacts and consequences, and most visible climate change impacts are extreme temperatures and irregularities in seasonal shifts and precipitation patterns. In the same line, participants reported an increase of the climate change topics in media, and a half of the respondents relate this observation to more frequent occurrence of extreme weather events.

The participants are, however, not satisfied with the extent to which authorities, corporations and industry, or even citizens themselves, contribute to fight climate change. Similarly, 34% reported that the reason that hinders environmental and climate conscious behaviour is a feeling that it is not citizens' duty, but the one of the government, companies and industries. Conversely, 61% of the participants think that it is their citizens' duty to protect the environment. This finding signals that citizens are on a learning curve in their understanding about how individuals can contribute to tackle climate change. Besides, it is encouraging that only 2% of the sample thinks that it is too late to act against climate change, comparing to 14% in the previous survey. Participants are motivated to pursue a path of more environmentally friendly behavior and almost all participants are willing to use renewable energy. The main motivation for more environmentally friendly behaviour is a desire to live in a healthy and clean environment. By and large, the results reflect a more optimistic spirit within Macedonian population when it comes to tackling climate change.

Citizens are still insufficiently knowledgeable about climate change adaptation. Further efforts and attention is needed to promote best adaptation practice and support development of specific adaptation measure. New information can be shared using the Internet, i.e., specialised websites and social media, as 73% of the participants find information about climate change on the Internet and more than half through social media. Participants are familiar with climate change campaigns organised by international organisations, in particular UNDP and USAID, and environmental NGOs, and almost a half of the participants is also aware of the campaigns organised by MOEPP.

Finally, the higher number of participants comparing to the survey conducted in 2014 is a sign that the issue of climate change is appealing enough to motivate participation. Macedonian citizens proved enthusiastic about collaboration on this topic and ready to be more actively involved in the climate change governance. Decision-makers should build on this positive momentum already identified in 2014 and continue with participatory activities in the area of climate change information sharing and awareness raising.

1. INTRODUCTION

The United Nations Development Programme (UNDP) and the Ministry of Environment and Physical Planning (MOEPP) of the Republic of Macedonia, in the frame of the project *Macedonia's Second Biennial Update Report*, conducted the *Online Survey on Citizen's Climate Change Perception and Awareness Level*. The project *Macedonia's Second Biennial Update Report* aims to assist the country in mainstreaming and integrating climate change consideration into national and sectorial development policies by providing continuity to the institutional and technical capacity strengthening process. This process was initiated by the National Communications and in particular the *First Biennial Update Report on Climate Change*.

Within [the First Biennial Update Report on Climate Change](#), UNDP and MOEPP conducted the public online survey on climate change awareness and challenges in Macedonia, in November 2014. The survey was in line with the similar EU public opinion researches, such as Eurobarometer – the global climate change survey from 2008. It gathered information on the climate change awareness and perception of the general public and the public administration employees working on climate change issues. The aim of the survey was to identify the key incentives for and challenges to environmental and climate conscious behaviour and thus guide future climate change adaptation and mitigation projects and campaigns.

In the meantime, in April 2016 Macedonia signed the Paris Agreement, the first universal, legally binding global document within the United Nations Framework Convention on Climate Change (UNFCCC), and thus affirmed its commitments to contribute to the global efforts to fight climate change by taking concrete measures.

In order to provide continuity in the process and understand if the perception related to climate change in the country has changed, especially after signing the Paris Agreement, this updated online survey was conducted in December 2016. A new societal trend, associated with the emergence of Information and Communication Technologies, epitomised in the Internet, enabled to conduct this survey online, and collect a substantial number of results in a short period of time. The survey was disseminated using professional email lists and networks, social media, such as Facebook groups, Facebook advertisement and Twitter, as well as advertisements on topic websites.

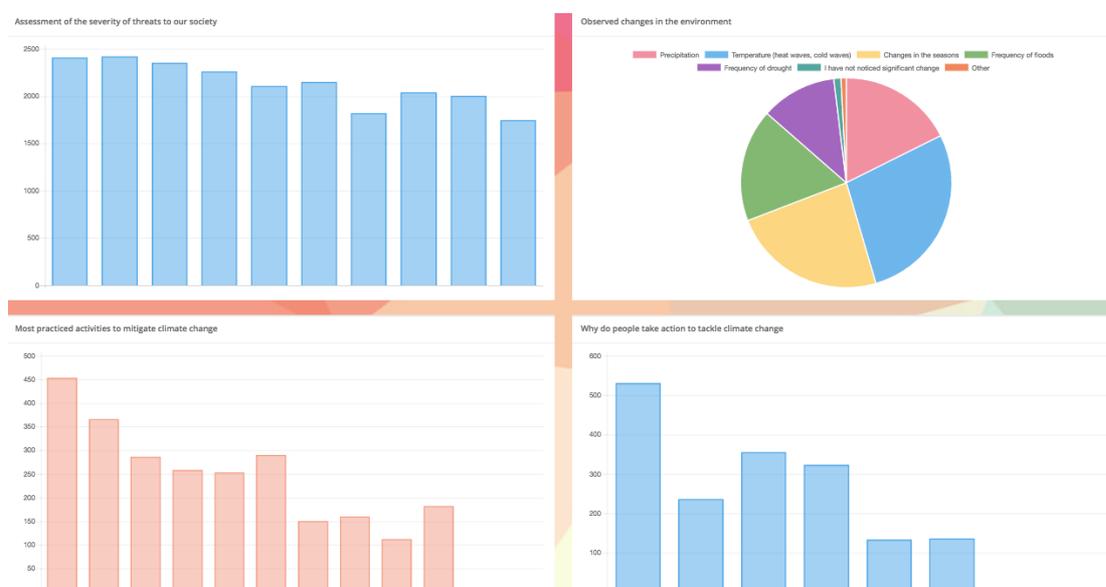
The results of this survey will provide an update on the information level and public perception of climate change, specifying the well-known topics and those that should be better communicated. Furthermore, the survey will identify the key incentives for and challenges to environmental and climate conscious behaviour. The results will also pinpoint the most popular media for obtaining climate change related information, campaigns and institutions working in this field with the highest visibility, and the institutions that Macedonians see as the most proactive in conducting climate change projects. Comparing the results of this survey with the previous analysis of the public opinion will indicate how effective climate change communication and engagement activities have been in the past two years. In accordance, it will help better shape and communicate further activities. The results will thus be used by relevant national institutions to define future steps for enhancing the outreach, action-research and raising awareness agenda in the country on issues pertaining climate change, with an ultimate goal to improve climate change governance in Macedonia.

2. METHODOLOGY

The online questionnaire was conducted in Macedonian language. The questionnaire had 22, mainly close-ended, questions that were divided into four sections following the main topics aimed to be explored: *General questions*; *Climate change perceptions*; *Behavioural aspects*; and *Information source*. Most of the questions from the latter three sections were multiple-answer.

The *General questions* section comprised socio-demographic information of the participants, including their age, sex, municipality of origin, education, and employment status. This section contained two additional questions directed to those participants employed in governmental institutions. The *Climate change perception* section provided ranking of the potential threats to the society, based on the level of their severity. The same section further investigated perception of changes in the environment in the past 10 years and participants' familiarity with the climate change related activities. In addition, two questions were directed toward exploring the participants' knowledge of and opinion on the Paris Agreement. The *Behavioural aspects* section analysed whether participants considered the environment and climate change while making daily decisions, reasons behind those considerations, as well as barriers to environmental and climate friendly behaviour. The *Information source* section obtained answers regarding the participants' level of awareness of climate change, the sources of the information they acquired, their observations related to a possible increase of the climate change related topics in the media. This section also analysed participants' familiarity with public awareness campaigns and the institutions they related to climate change projects. Except in the first section, most of the questions in other sections were of a multi-response type and had fields available for additional comments.

The questionnaire was hosted on an interactive online platform. The platform provided automatic analysis of some of the answers provided by the participants. In this way, after completing the survey, a participant could learn about the outcome of the participatory activities that took place until that moment. Image 1 is the interface of the automatic results analysis from the last page of the survey (<http://klimatskipromeni.mk/UNDP/SURVEY/SurveyResultsEN.html>)



Sources of information on climate change

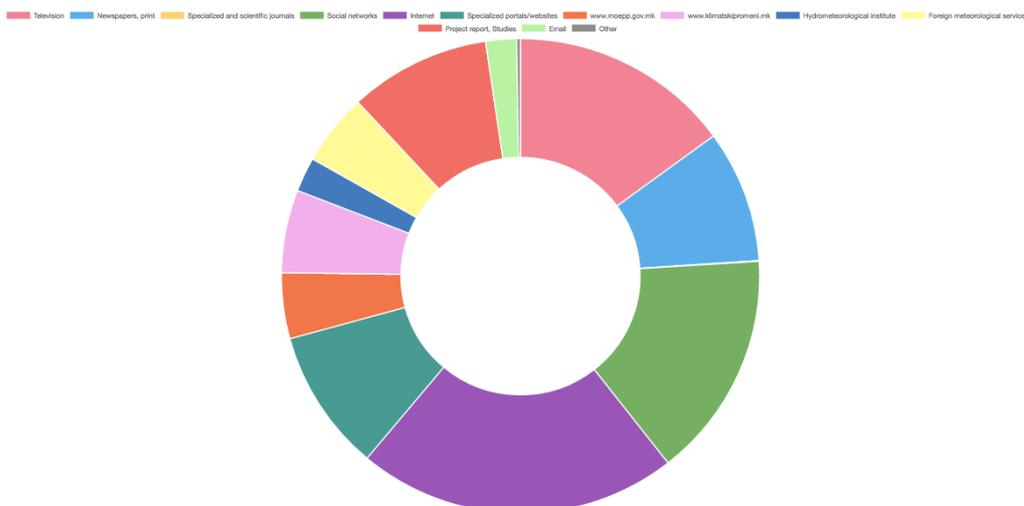


Image 1 Automatic results calculation. Top left: Assessment of the severity of threats to our society; Top right: Observed changes in the environment; Middle left: Most practiced activities to mitigate climate change; Middle right: Why do people take action to tackle climate change; Bottom centre: Sources of information on climate change climate. Names of the measures appear with mouse-over.

The questionnaire was distributed through various mailing lists, including 791 recipients from governmental, private, academic, NGO and media sector. The questionnaire was also distributed through in total 88 Macedonian online news portals, both in Macedonian (49) and Albanian (39) language, such as, among others, MIA (Macedonian Information Agency) (<http://www.mia.mk/>), Sitel (<http://sitel.com.mk/>) and Popularno.mk (<http://www.popularno.mk/>). Besides, the questionnaire was published on the web site of the MOEPP, and on the following address: www.klimatskipromeni.mk. The general public was invited to participate through a Facebook advertisement (Figure 1). The target audience was specified according to the location- Macedonia. The survey based on the Facebook advertising campaign was run for 14 days. The questionnaire was also promoted through various twitter accounts.

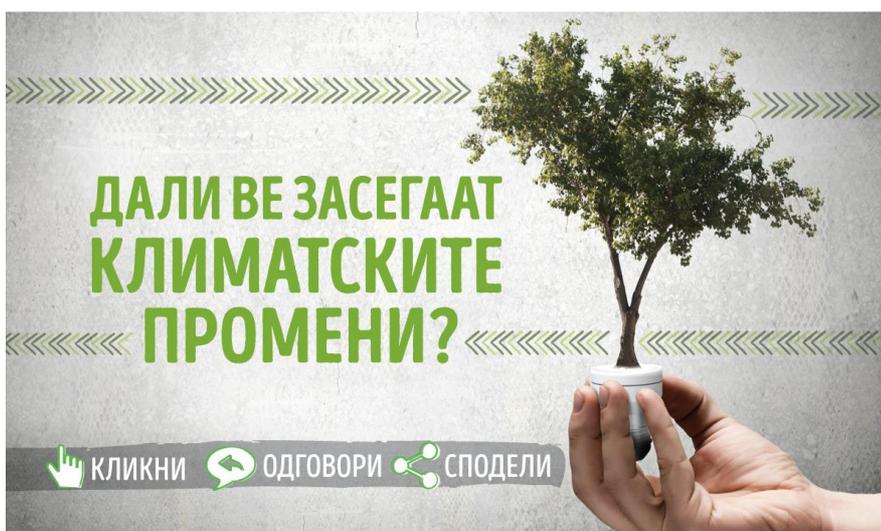


Image 2 Facebook advertisement

3. RESULTS ANALYSIS

3.1. General results

This analysis is based on 583 online questionnaires collected in two weeks period (from 19 December 2016 to 3 January 2017).

Figure 1 shows participants' age distribution. All age groups are well present in the sample, except group over 65 years that counts with only one respondent. However, respondents from the age group 25-39 represent almost half of the sample (255). Figure 2 shows that female respondents (322) are slightly more numerous than male participants (261). The trend of female citizens' stronger interest in this research is also given in the statistics from the Facebook advertisement: 30% more clicks came from women (Figure 3).

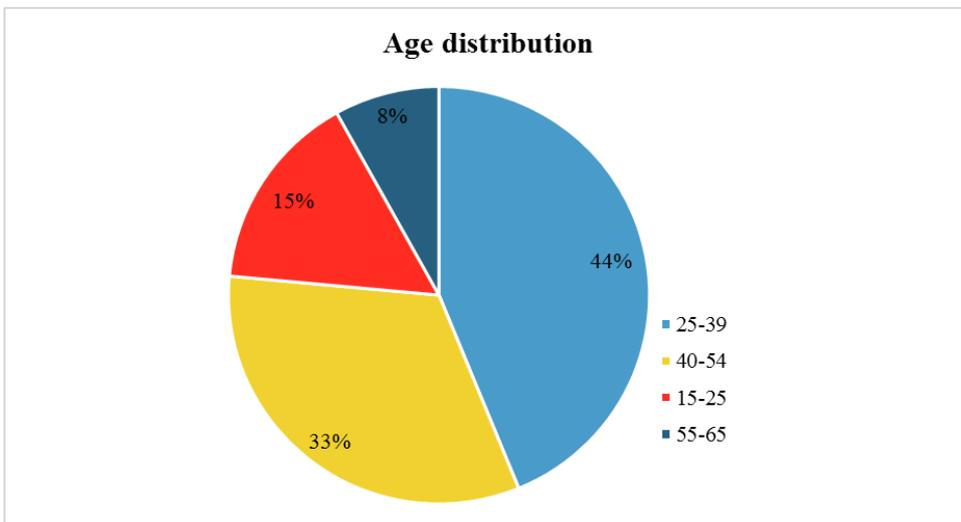


Figure 1 Age distribution

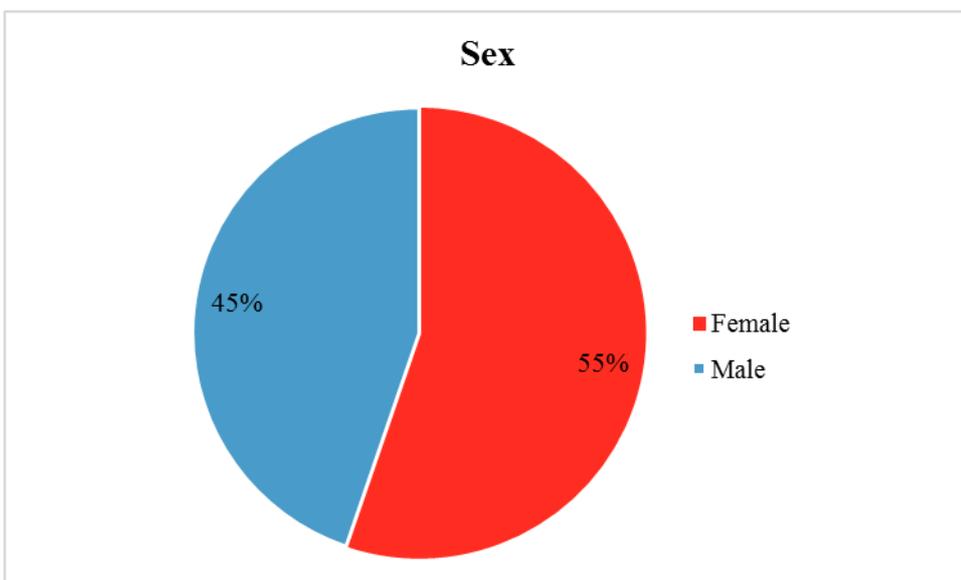


Figure 2 Gender distribution

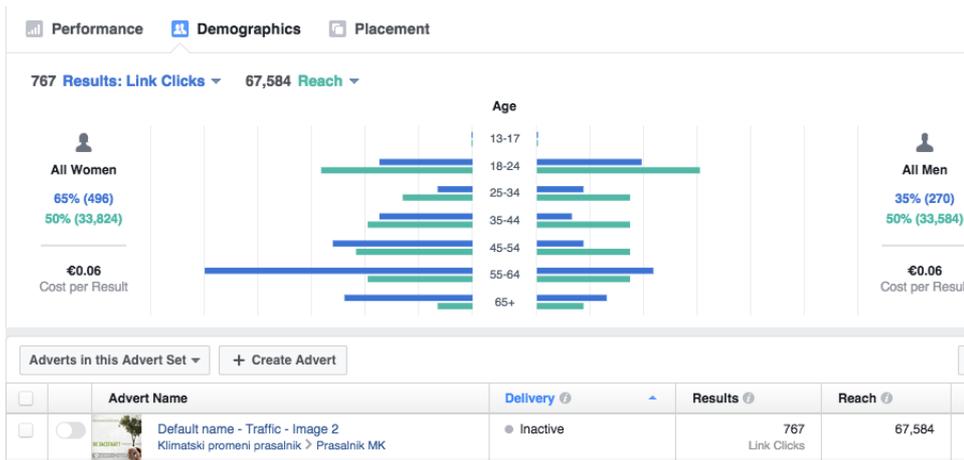


Figure 3 Statistics from the Facebook advertisement

Majority of participants (474) hold a university degree, and together with those with master or PhD degree represent 85% of our sample (Figure 4).

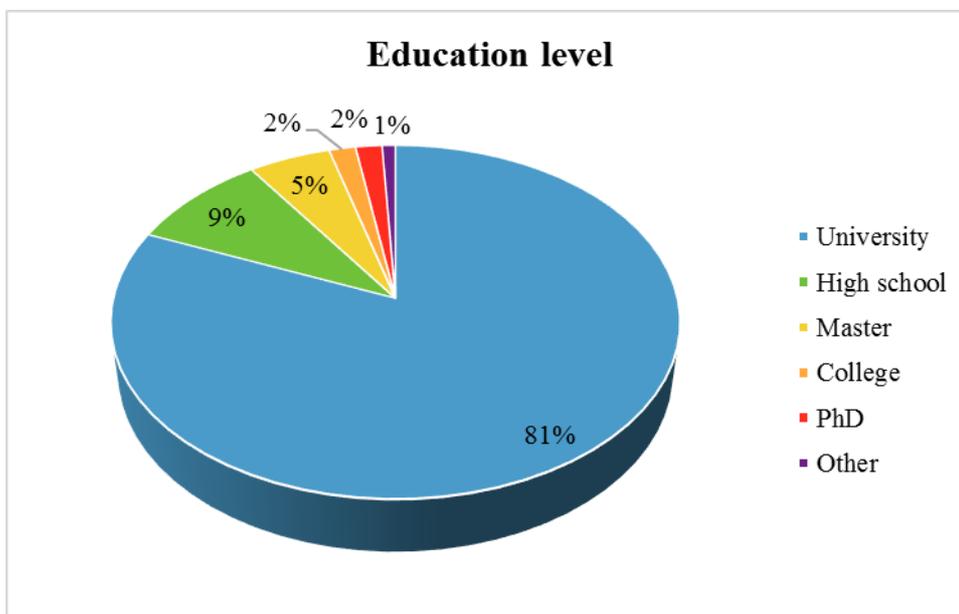


Figure 4 Participants' level of education

There are 55 municipalities represented in the sample. Out of ten municipalities of the City of Skopje, five are represented with the high number of participants, i.e., Aerodrom - 104 respondents, Karpos - 94, Centar - 74, Kisela Voda - 51, Gazi Baba - 53. Municipalities Gorce Petrov (24), Butel (17) and Cair (11) follow, while Saraj and Suto Orizari are the least represented municipality, with only 3 and 1 participant, respectively. Looking at the rest of the country, the most of the respondents (44) come from Bitola, the second most populated municipality after Skopje. Other municipalities were represented with significantly less participants (Figure 5).

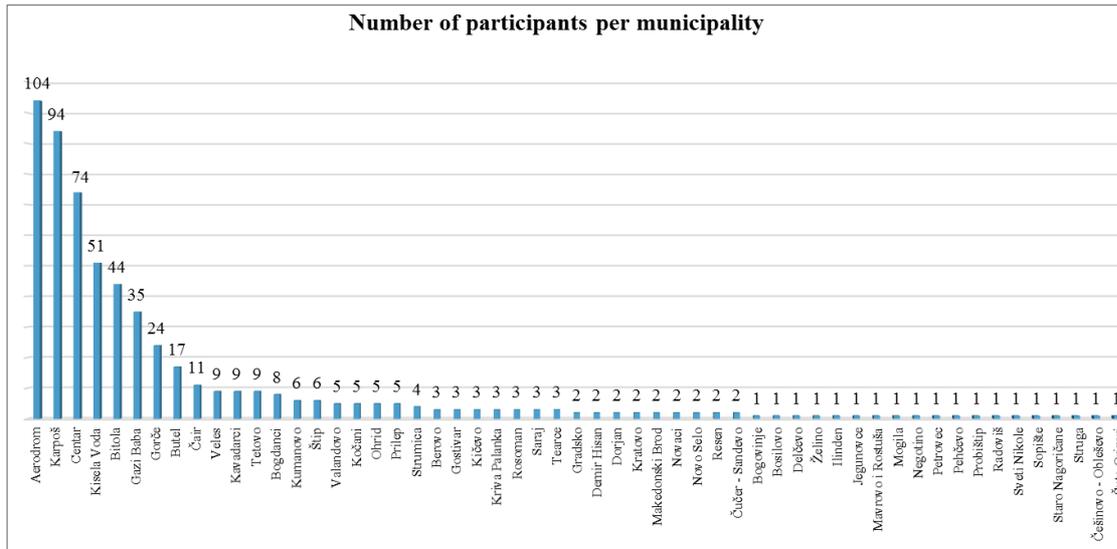


Figure 5 Participants' municipalities

As Figure 6 demonstrates, majority of the participants (80%) are employed and work in private sector (38%).

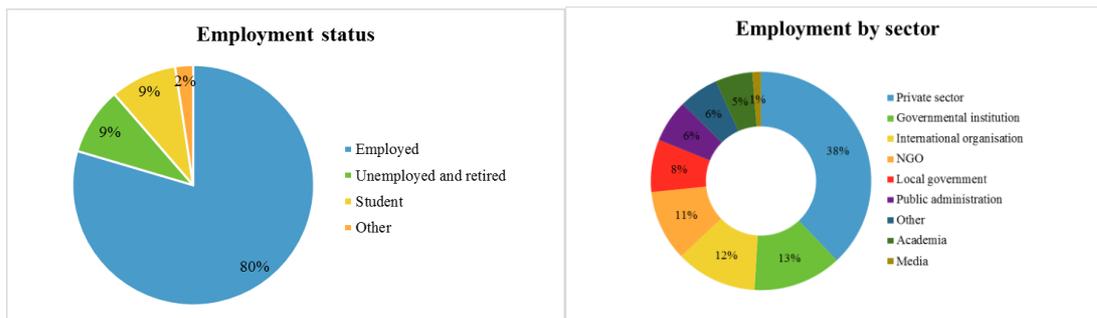


Figure 6 Employment status (left) and sector (right)

Figure 7 shows how participants ranked seriousness of possible threats to our society, where 5 represents the most serious and 1 the least serious threat. The results suggest that poverty is perceived as the most serious threat by majority of participants (46%), followed by economic situation (30%). In turn, the participants were least concerned about nuclear weapons proliferation.

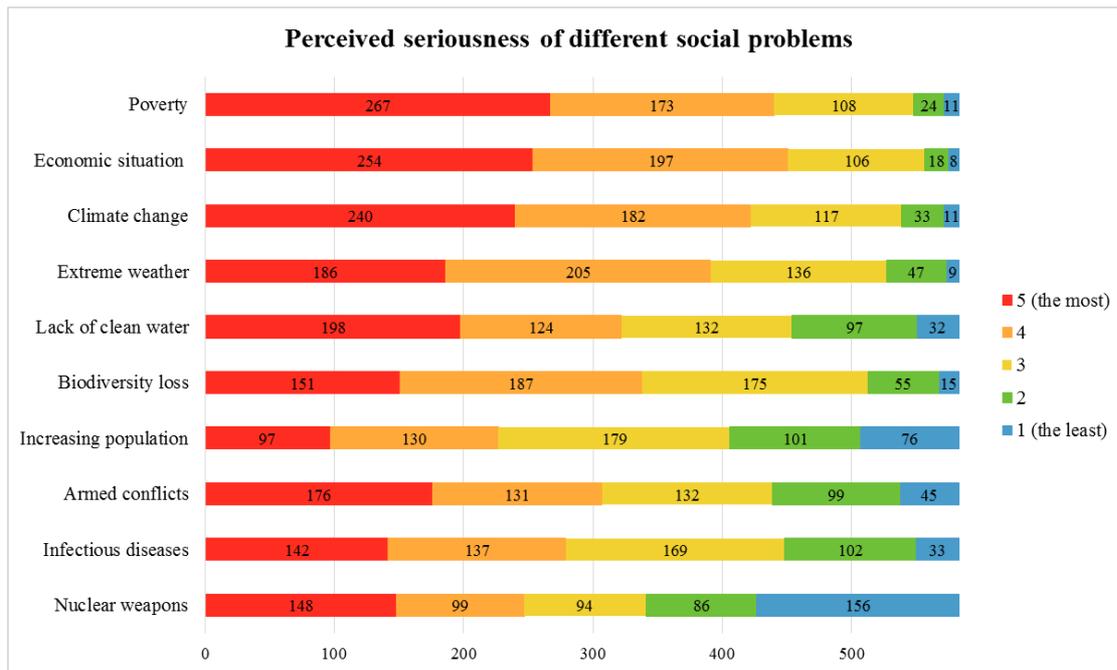


Figure 7 Ranking of the seriousness of possible threats to the society

Looking at the same Figure 7, but focusing only on extreme ranking – those ranked with 5 (red) and 4 (orange) are considered the most serious, and with 1 (blue) or 2 (green) as the least serious problems – we can see that economic situation is now leading as the most serious social issue followed by poverty and climate change. In turn, besides nuclear weapons, increasing population is perceived as the least dangerous to the society.

Besides the ten possible threats listed in the questionnaire, the participants also suggested the following issues as a serious danger for the society: air, soil, and water pollution; lack of education, illiteracy, and ignorance; inadequate environmental policy; accumulation of waste; increase in number of people suffering from cancer; and deforestation.

Most of the participants perceived some changes in the environment or climate in the past 10 years (**Error! Reference source not found.**). In particular, majority of the respondents noticed occurrence of extreme temperatures, such as heat and cold waves; irregular seasonal shifts; and changes in precipitation patterns. Among other changes not listed in the survey but reported as perceived by the participants, are lack of snow and an increased occurrence of fog combined with high air pollution.

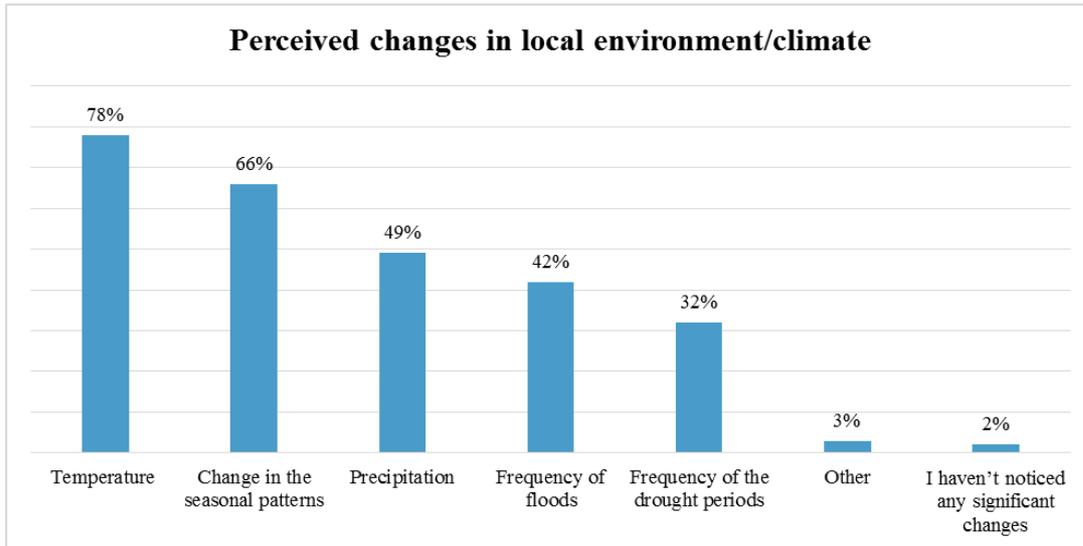


Figure 8 Environmental/climate aspects for which participants noticed changes in the past 10 years

Figure 9 shows that most of the participants (94%) consider important to fight against climate change, while most of them (368) think that that should be done by reaching a global climate change agreement. In turn, majority of the respondents heard about the Paris Agreement that is the first universal, legally binding global deal to combat climate change.

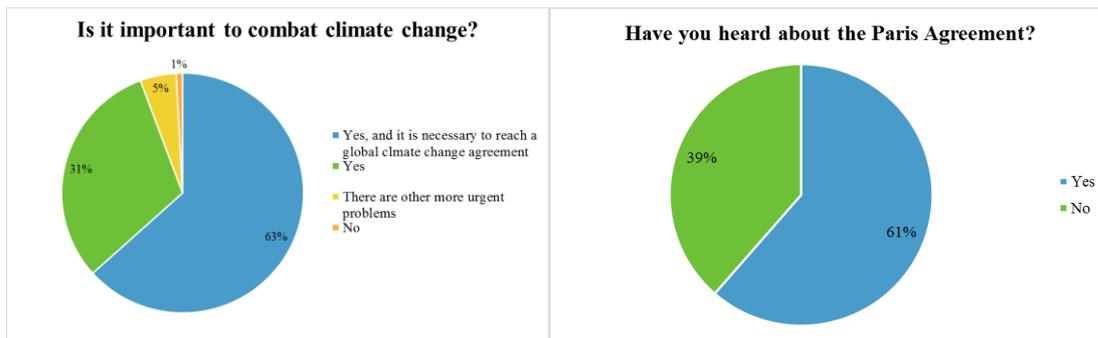


Figure 9 Participants' opinion on importance to fight against climate change (left) and their knowledge of the Paris Agreement (right)

When asked about the opinion on the Paris Agreement (Figure 10), most of the citizens of Macedonia consider that all countries, including their own, should contribute to the combat against climate change. However, the second largest portion of respondents (80), representing around one fourth of the sample, express doubts that individual countries will respect the agreed targets and actions.

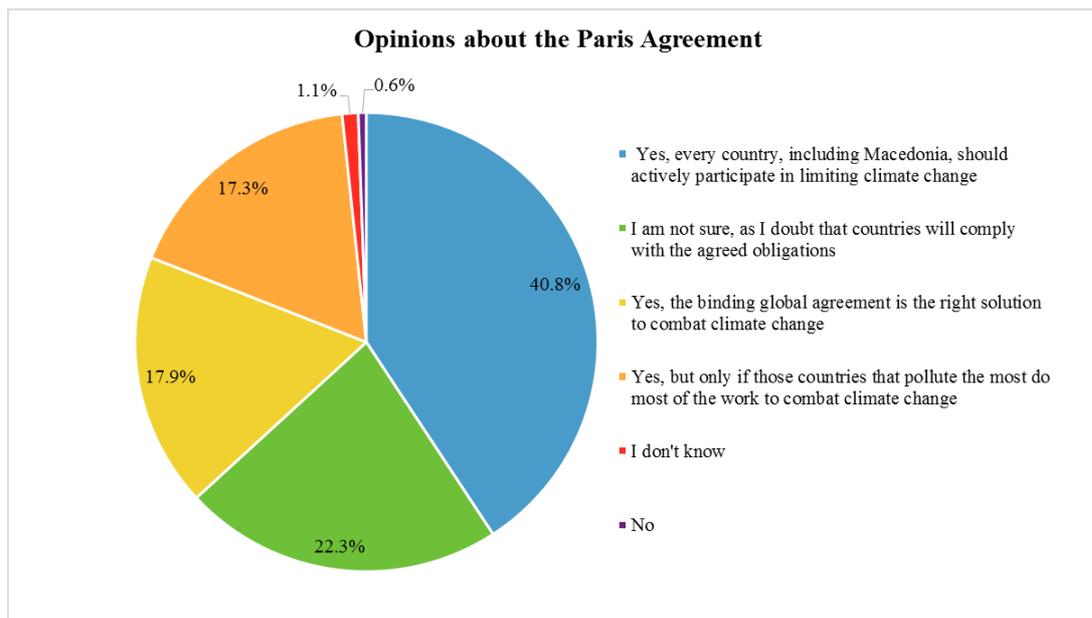


Figure 10 Participants' views of effectiveness of the Paris Agreement

In addition, large majority consider that Macedonia should ratify the Paris Agreement and get obliged to fight against climate change (Figure 11). However, around 15% of participants think that Macedonia either does not have enough money to invest in climate change solutions (38 respondents), or the country lacks needed knowledge and technology (13).

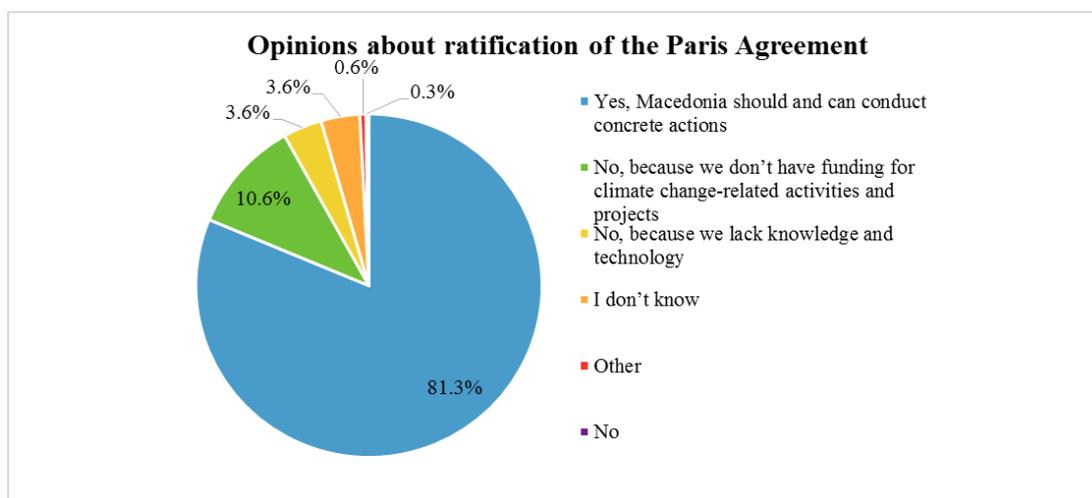


Figure 11 Participants' opinion on whether Macedonia should ratify the Paris Agreement

In general, the citizens of Macedonia consider that none of the actors groups contribute sufficiently to the fight against climate change, as Figure 12 shows. In particular, they are not satisfied with compartment of the authorities, private corporations and industries, and with the citizens' engagement with the problem of climate change. However, the respondents consider that NGOs, international organisations, and EU do contribute to combat climate change, but only to some extent.

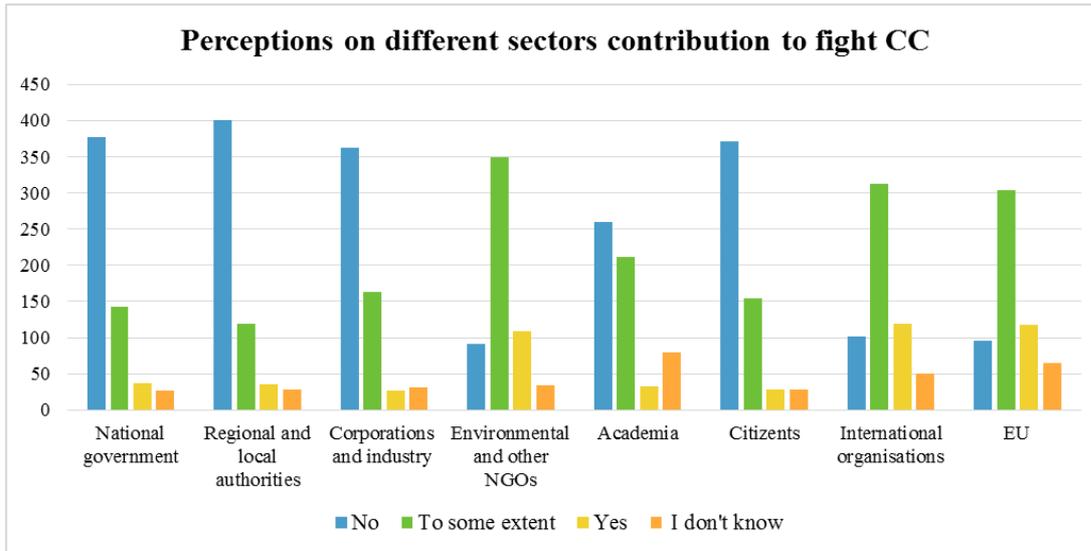


Figure 12 Participants’ perceptions on different actors groups’ engagement with climate change

It is encouraging that most of the participants in the survey consider some of the listed environment and climate aspects when making everyday decisions, as Figure 13 demonstrates. Majority of participants pay attention to reduce energy and water consumption, and to insulate their homes to further lessen energy used for heating. More than half of respondents say that they buy environmentally friendly products and recycle their waste. Less frequently reported measures are reduction of the use of disposable items and purchase of local products. Finally, the least popular measures are installation of renewable energy equipment, purchase of fuel-efficient cars, and use of alternative transport. The lack of popularity of purchasing equipment that use renewable energy and fuel-efficient cars could be explained by the fact that this would imply investing an important sum of money that might not be available to the majority of the respondents. The fact that poverty and economic situation are perceived as the most serious social problems confirms this assumption. However, the reasons behind the low popularity of alternative transport are not as visible and need further examination.

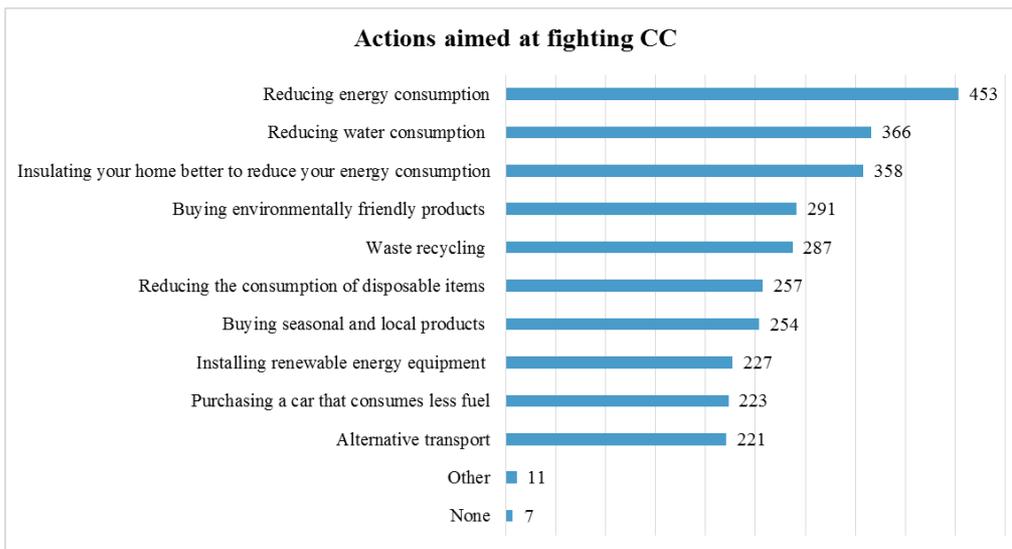


Figure 13 Environmental and climate friendly activities practiced by participants

Figure 14 explains the background reasons to the above mentioned environmental conscious decisions. Almost all of the respondents (581) express a desire to keep their environment healthy and clean. In addition, more than a half of the sample considers that it is their citizens' duty to protect the environment (356), for young and future generations (332), and that every individual can contribute to fight climate change by changing its behaviour (323). Almost 50% of respondents reported they were directly exposed to some climate change consequences, which serve them as a motivation to take named actions. Even though listed as the least motivating reason to combat climate change, still high number of people (237) do so in order to lessen their household costs by e.g., using less energy and water.

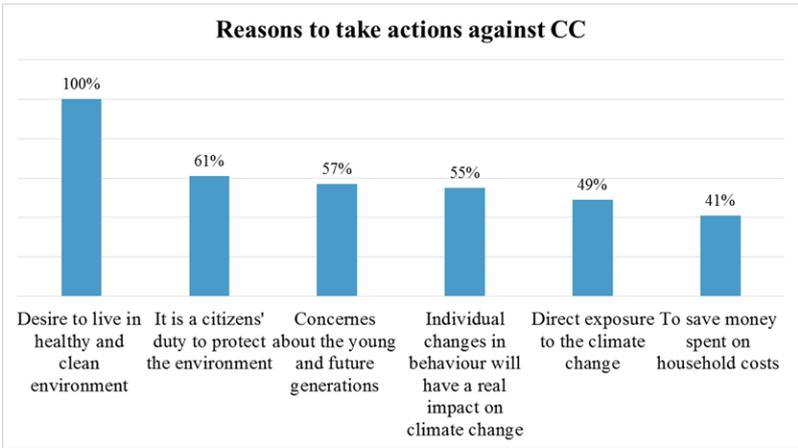


Figure 14 Reasons that trigger environmental and climate friendly behaviour

There are, however, some possible barriers to environmental and climate friendly behaviour, as Figure 15 shows. Most of the participants consider that it is not their duty, but the one of the government, companies and industries. It is encouraging that many respondents (112) stated that none of the responses apply to them, because they do take actions against climate change. Interestingly, many of the participants stated that a lack of information and a hesitation about what could be done to tackle climate change also hinder climate friendly practices. Finally, only 10 participants think that it is too late to act against climate change.

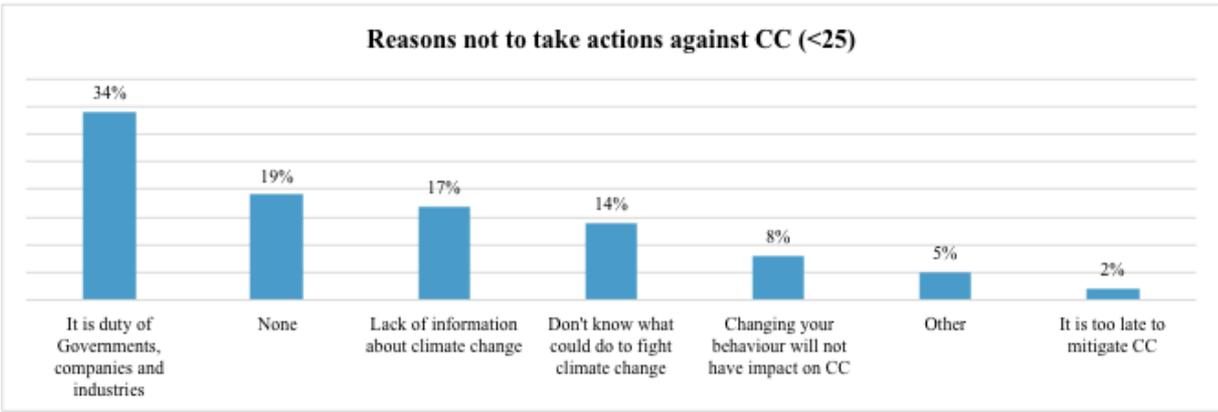


Figure 15 Barriers to environmental and climate friendly behaviour

It is encouraging that around 40% of respondents express willingness to switch to using the energy produced from alternative resources (Figure 16). However, acceptance of such resources is conditioned by the energy price in case of an equally large number of people (in

total 48%), where 30% of sample would accept the new price not higher than 20% of the current one, and 18% would do so only if the cost of energy stays unchanged.

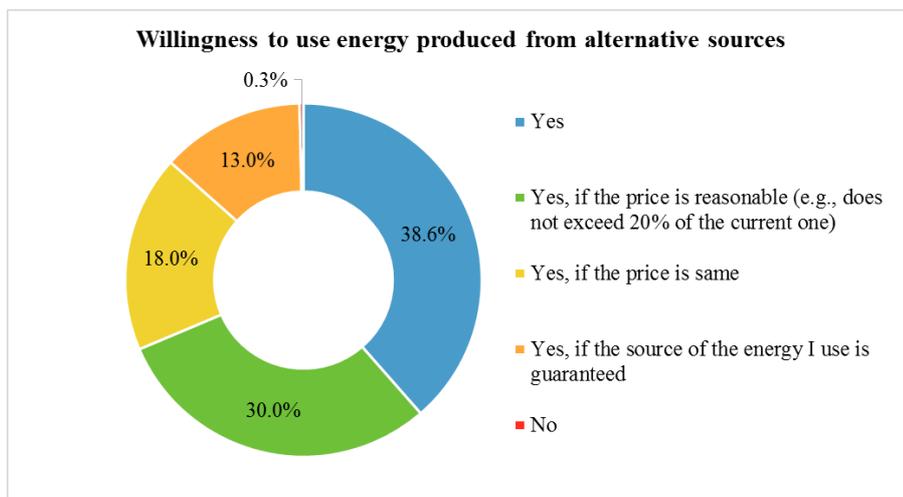


Figure 16 Readiness to switch to alternative energy resources

Figure 17 shows that participants consider they are informed about variety of climate change impacts and consequences, as well as of different causes of climate change. In turn, the citizens of Macedonia feel they are missing further information on how to lessen, but mostly on how to adapt to climate change.

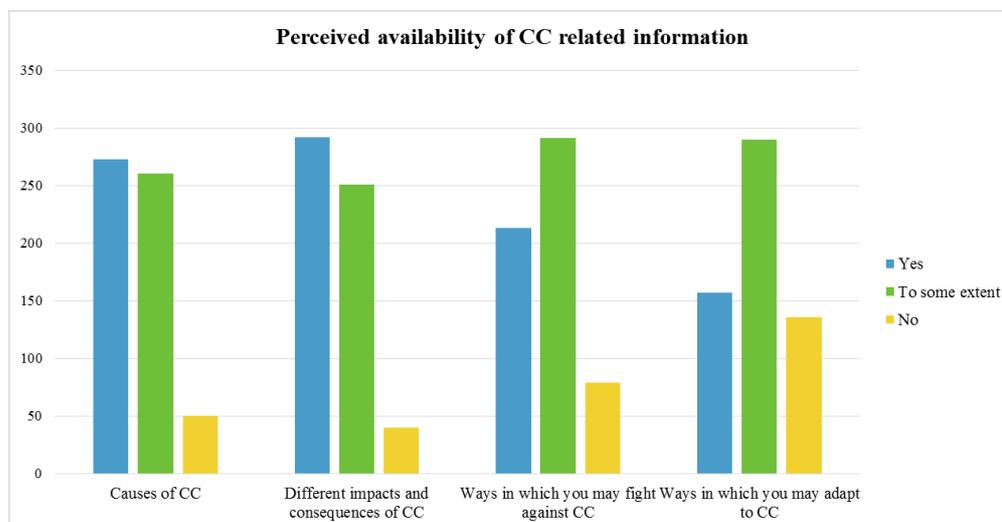


Figure 17 Familiarity with different climate change related issues

The participants obtain the most of climate change related information from the Internet, followed by social media and television, as Figure 18 shows. Besides, the large number of participants consult project reports and studies (206), specialised Internet portals (199), and newspapers (170). In particular, 111 respondents reported that they use www.klimatskipromeni.mk and 88 of them visit the official webpage of the Ministry of Environment and Physical Planning (www.moep.gov.mk). The least convenient way of disseminating climate change related information is email, while only two participants reported reading scientific journals to get informed on the issue.

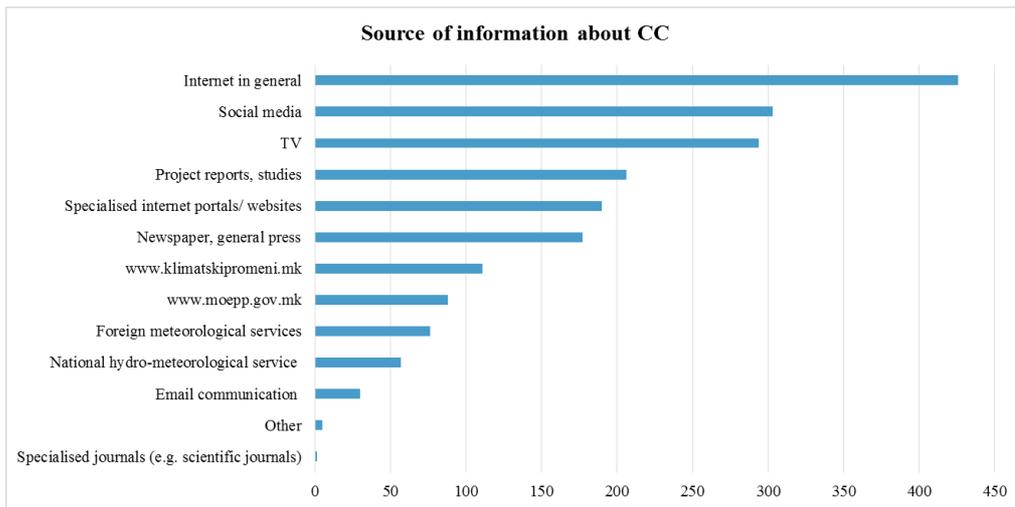


Figure 18 Climate change information source

480 participants noticed an increase in the visibility of climate change related topics in media in recent times (Figure 19). Most of them (220) consider that this is related to increased frequency of extreme weather events, such as extreme precipitations, floods and gales. An equally large number of respondents (161) think that the main reason for more visibility of such information is general increase of public awareness of and interest in the climate change topic. The third largest group (103) makes those that think there were no changes in the visibility of climate change related information in media.

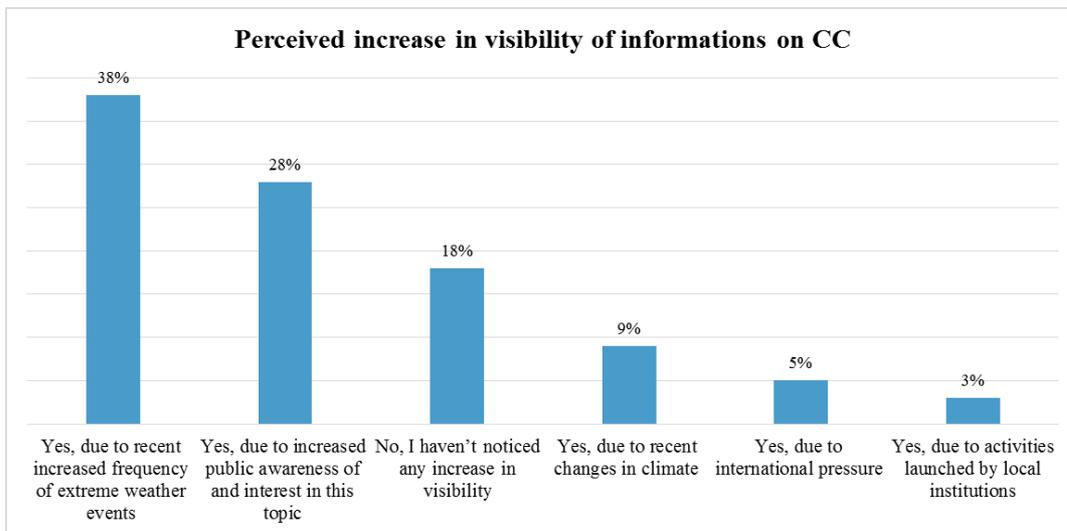


Figure 19 Participants' perception of increased visibility of the climate change topic in media

Most of the participants heard about public campaigns aimed at improving the general public awareness and knowledge and influencing perception about climate change that were conducted by international organisations (e.g., UNDP, USAID, GIZ) and NGOs (Figure 20). In addition, many participants (277) are aware of climate change campaigns organised by the Ministry of Environment and Physical Planning.

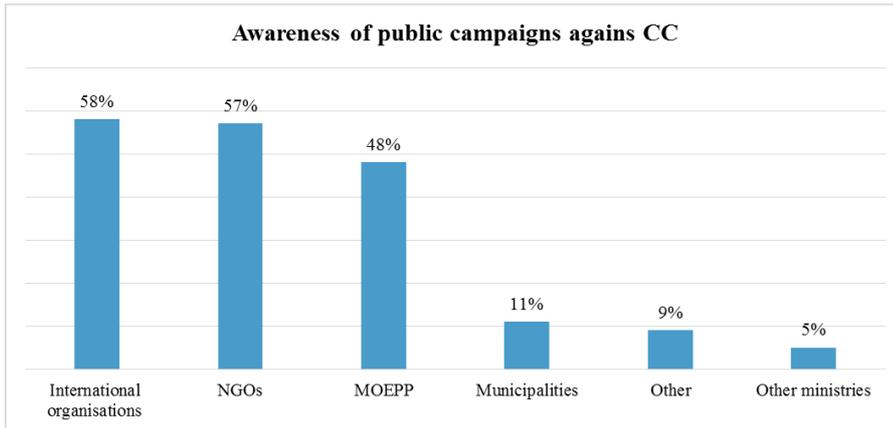


Figure 20 Awareness of climate change campaigns organised by different actors in the country

Figure 21 shows which international institutions participants connect with climate change related projects. Most of the participants (66%) relate UNDP with climate change projects. Other institutions with high visibility in this field are USAID (44%) and the European Commission (EC) (30%).

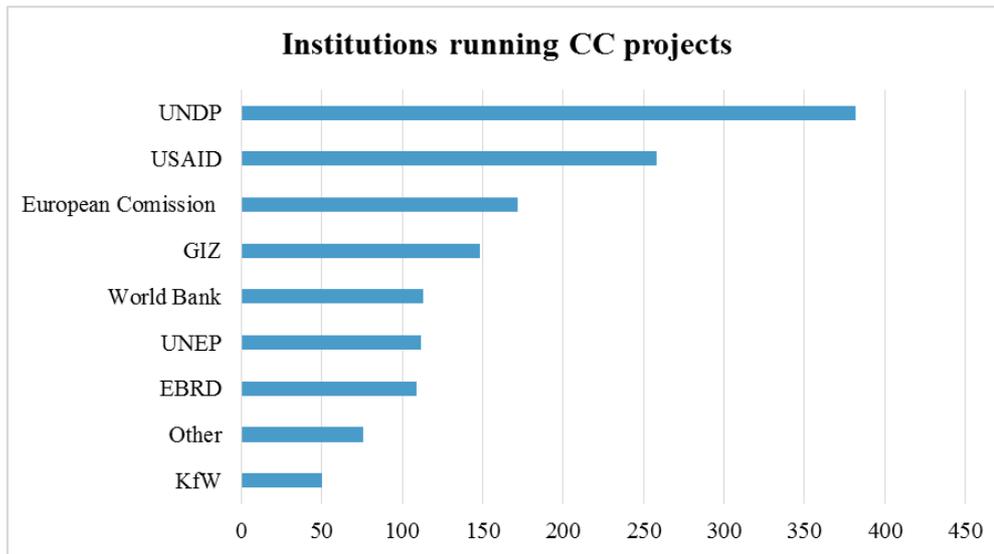


Figure 21 Institutions that respondents relate to climate change projects

3.2. Comparative analysis

This section presents results of the sub-groups identified in the sample and considered interesting for the comparative analysis, including geographical location, age, and sector affiliation.

3.2.1. Geographical particularities

All 10 municipalities of the city of Skopje are present in the sample and represent 71% of the entire number of respondents. Ladies are dominant, making 62% of this group, while 38% are male participants. The opposite situation was reported in the rest of municipalities in Macedonia (61% male and 39% female).

Interestingly, answers were quite uniformed among these two groups. The following graphs present some comparisons between the results obtained from the citizens of Skopje (SKC) and the rest of the country (MKC).

Figure 22 shows perceptions of the possible threats to our society within the two identified groups based on their municipality. Both groups see climate change and poverty as the most serious threats, resembling therefore the general results of this survey.

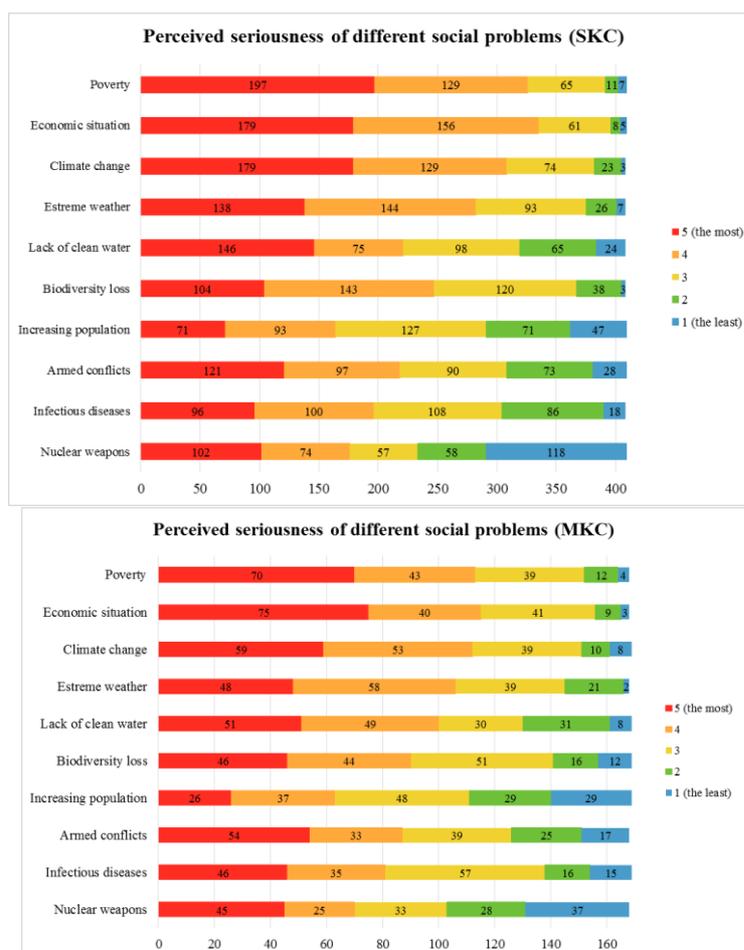


Figure 22 Most and least serious threats to the society, according to the citizens of Skopje (upper graph) and the rest of Macedonia (lower graph)

Figure 23 shows the decisions influenced by climate consciousness. The result is similar for the both groups and resembles the general results (Figure 13). MKC group ranked relatively higher the use of renewable energy equipment; this activity could be more appealing in smaller urban or rural surroundings. Also MKC group demonstrated more readiness for waste recycling; this is surprising giving that more opportunities, although still insufficient, for waste separation and recycling is currently available in Skopje. Also MKC group shows more willingness to buy seasonal and local products and to use alternative transport. In the end, seasonal and local products might be more easily available in smaller urban or rural surroundings. It is however surprising the fact that alternative transport is highly ranked by MKC, given that more projects on alternative transport (e.g. urban cycling) have been conducted in Skopje and, as a largest city in the country, it has well developed network of public transport. Then again, MKC and SKC citizens are equally willing to reduce energy, while SKC pay slightly more attention to water consumption and to buying environmentally friendly products.

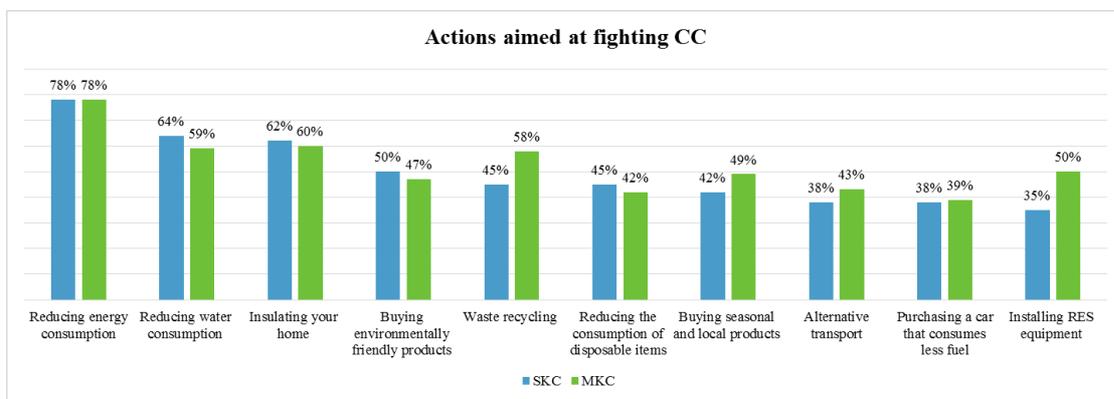


Figure 23 Environmental and climate friendly activities practiced by citizens of Skopje and the rest of municipalities in the country

Accordingly, both groups are equally willing to pay higher price for energy produced from low carbon sources or renewable energy (Figure 24).

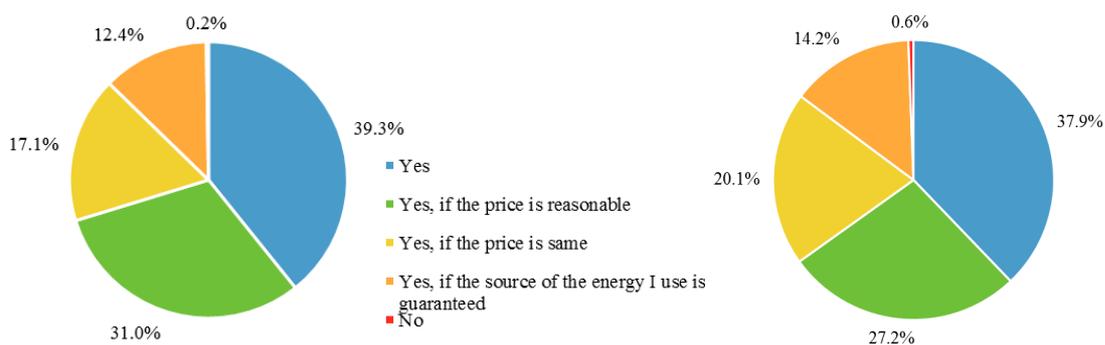


Figure 24 Answer to higher payment for alternative energy resources by SKC (left) and MKC (right)

Comparing the answers to the question referring to the barriers to environment and climate conscious behaviour, we can see that MKC group is little bit less optimistic about future of climate change. Namely, 12% of this group thinks that it is either too late to tackle climate change, or they claim that individual changes will not make an important difference for the fight against climate (Figure 25).

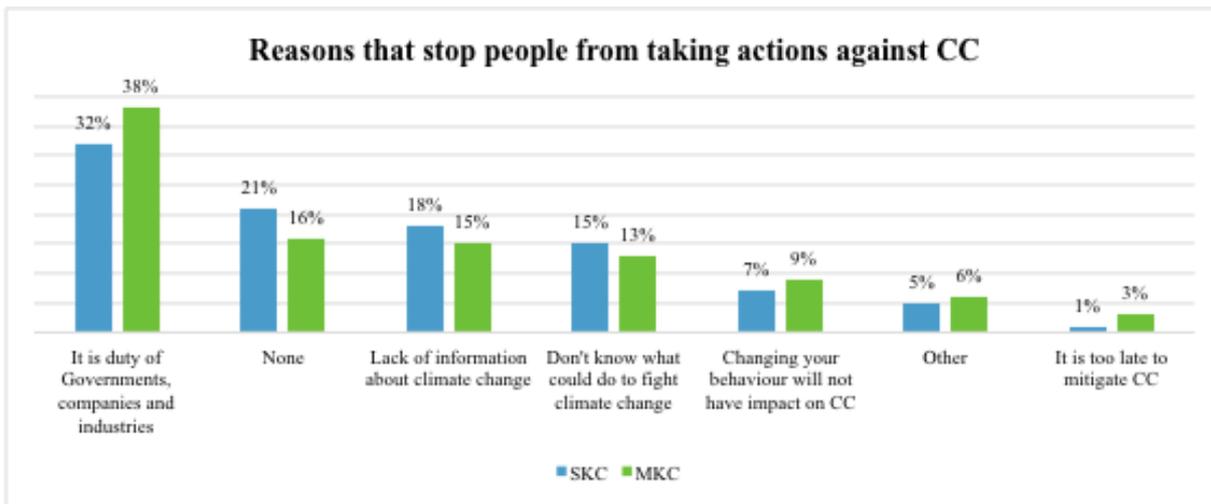


Figure 25 Barriers to environmental and climate friendly behaviour, as stated by SKC (blue) and MKC (green)

Comparing the answers to the question about participants' familiarity with different climate change related issues, we see that MKC and SKC are familiar with climate change consequences, at least to some extent, but both groups lack information on climate change adaptation, that is also characteristic for the general sample (Figure 26).

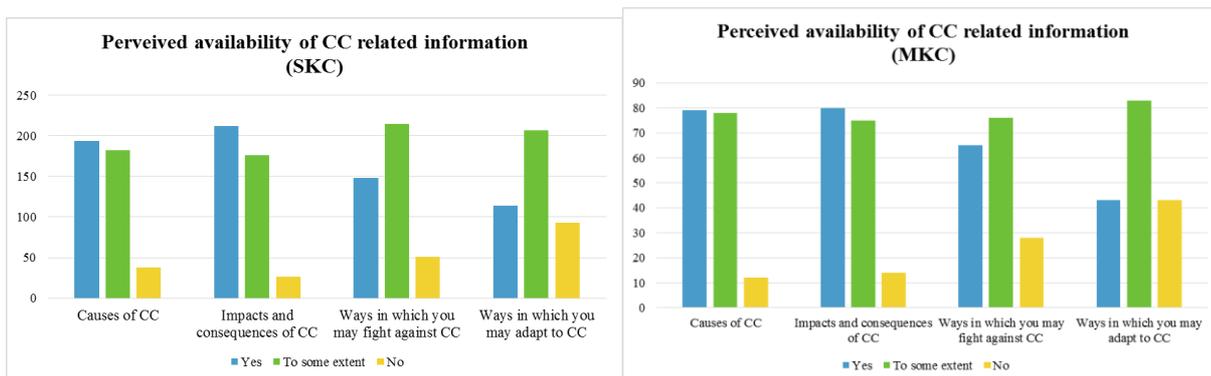


Figure 26 Familiarity with different climate change related issues, by numbers of participants from Skopje (left) and the rest of Macedonia (right)

The group from Skopje receives climate change related information mainly from the Internet, while social media is on the second and TV on the third place. MKC receives information about climate change through the same sources only that TV takes the second and social media the third place in this case (Figure 27). In addition, MKC use slightly more newspapers and search the MOEPP's website for climate change related information, than inhabitants of Skopje.

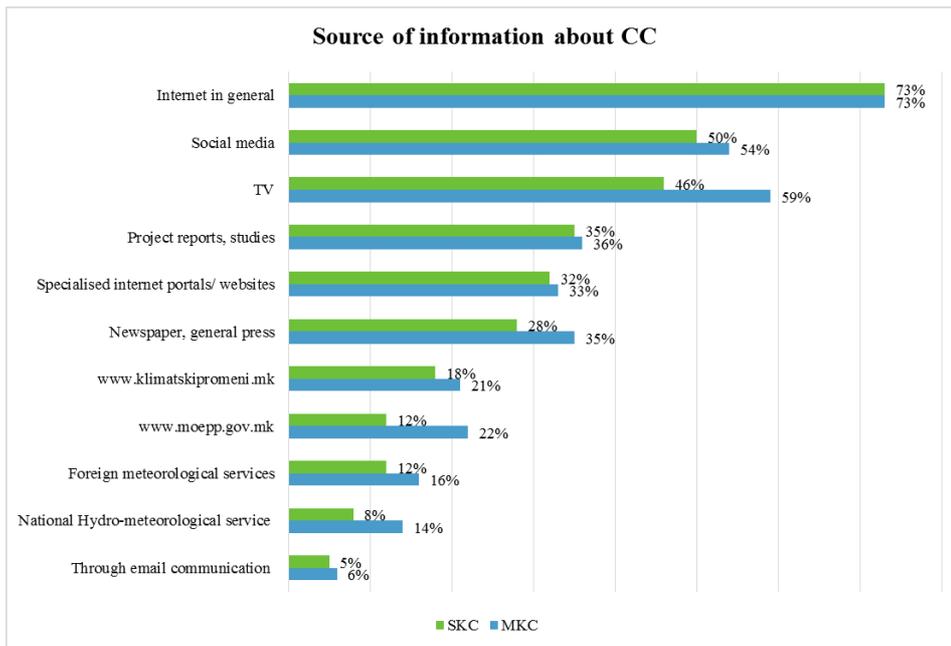


Figure 27 Climate change information source for SKC (blue) and MKC group (green)

Participants from Skopje are the most aware of climate change campaigns conducted by international organisations, NGOs and MOEPP. In turn, MKC inhabitants consider NGOs as the most proactive institution in the field of climate change campaigning, followed by international organisation and MOEPP (Figure 28).

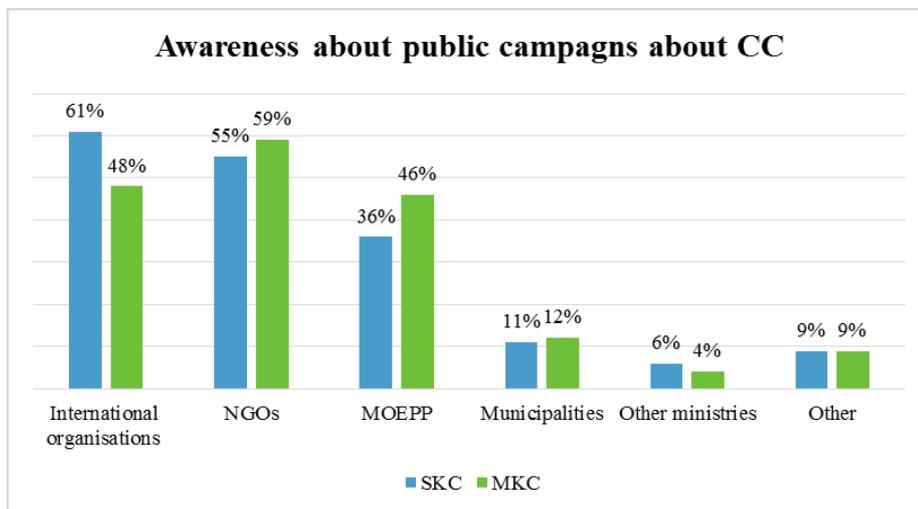


Figure 28 Awareness of climate change campaigns, perceived by SKC (blue) and MKC (green)

3.2.2. Age particularities

Bearing in mind that young people will be future climate change leaders, and in line with the fact that education is important for establishing environmental and climate conscious behaviour, this section looks into specific answers provided by the group of 90 youngest participants (aged 25 and less) that represents 15% of the total sample. The group has equal gender distribution, with 45 girls and 45 boys.

Figure 29 shows the potential threats the youngest participants consider to be the most serious ones. Unlike the overall results (Figure 7), this group is most worried about climate change, followed by the economic situation, and poverty. Same as for the entire sample, this group is the least worried about proliferation of nuclear weapons.

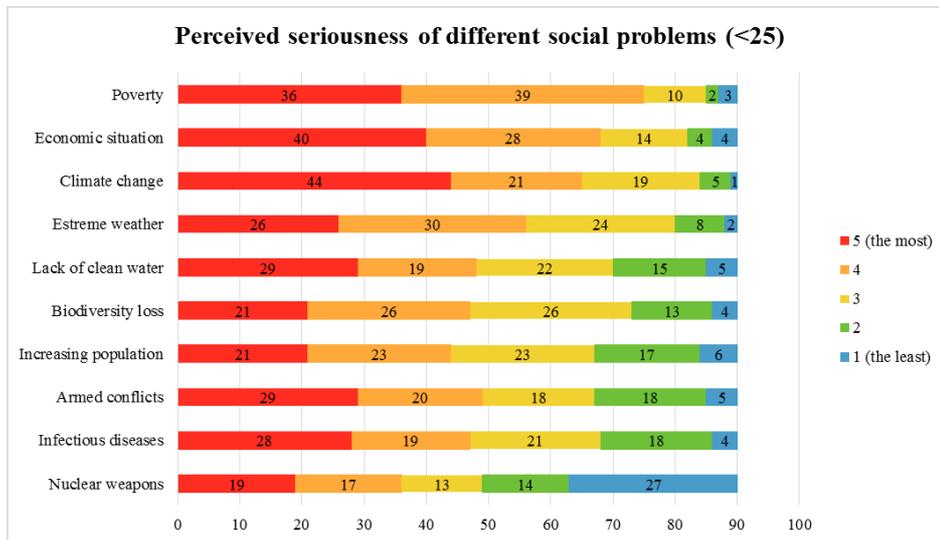


Figure 29 The most and the least serious threats to the society according to the youngest group

Figure 30 shows that the wish to live in clean environment is the main reasons that young respondents use to explain taking actions against climate change. When compared to the whole sample (**Error! Reference source not found.** 14), this group felt more directly exposed to climate change, which encourages them to act against it.

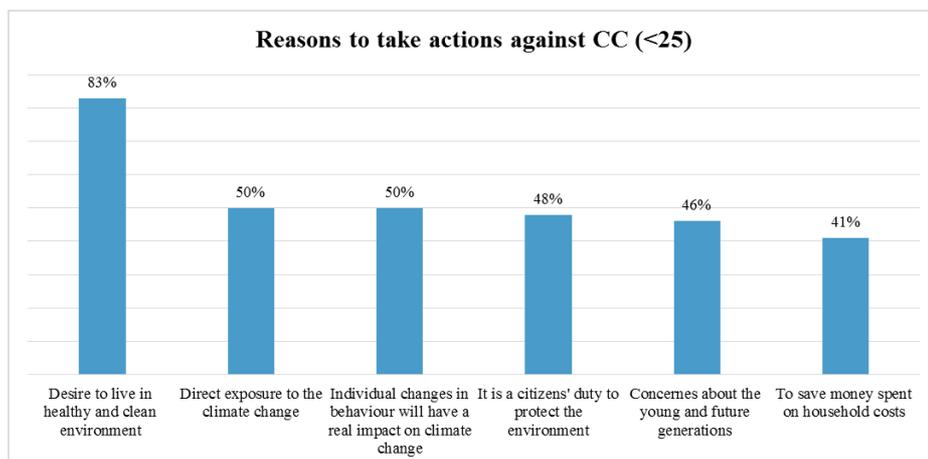


Figure 30 Young participants' reasons to act against climate change

Figure 31 shows that the youngest group considers the environment particularly through reducing energy and water consumption, similar as in the general results. Alternative transport modes, such as cycling, walking or public transport, is on the third place, followed by insulation of their homes. Logically, more expensive actions such as installing equipment that uses renewable energy and obtaining less fuel consuming car were the least popular among this group.

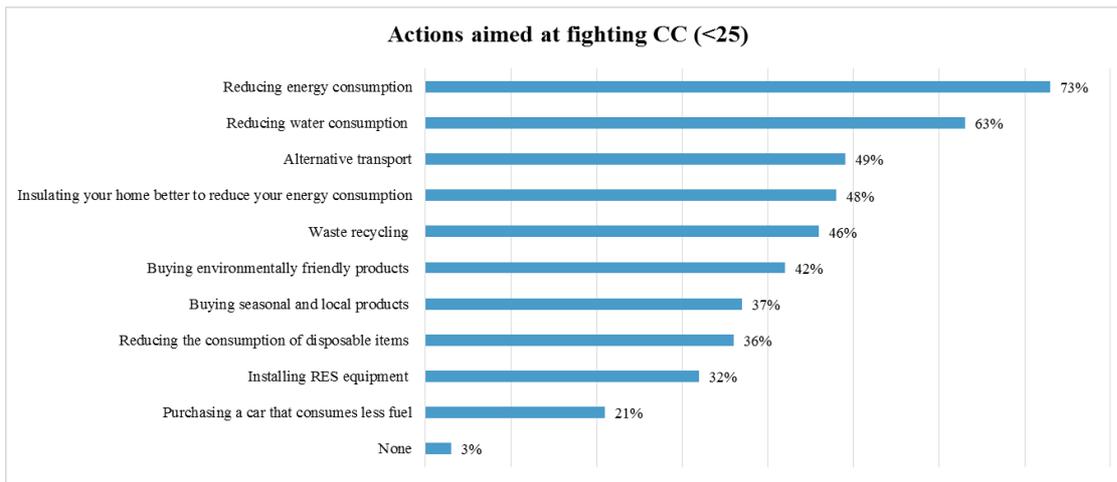


Figure 31 Environmental and climate friendly activities practiced by the youngest participants

Most of the young participants consider that it is predominantly responsibility of the government and industries to take actions to fight climate change. However, many (20%) do not agree with any of the suggested responses and claim they take actions and consider it is their responsibility too. It is worrisome that 20% of participants from this group (17) do not know what they could do to personally address climate change. However, it is encouraging that only 3% of the young respondents consider that it is too late to do something about climate change (Figure 32). Only one person said he/she does not perceive the changing climate.

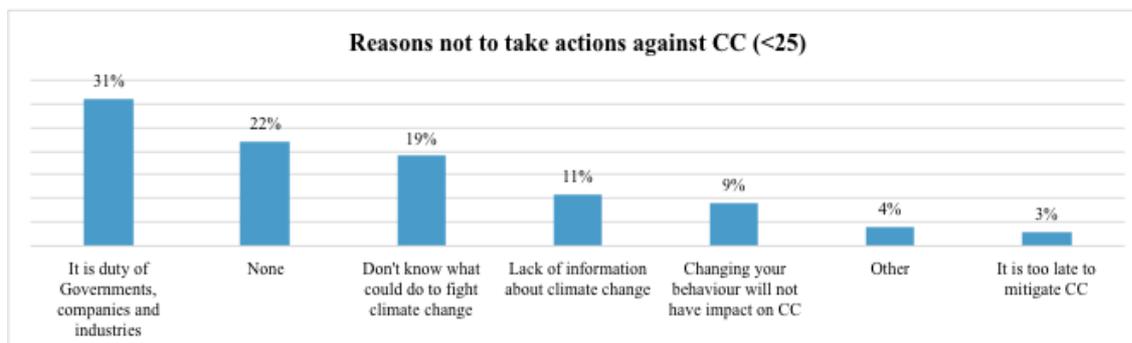


Figure 32 Barriers to environmental and climate friendly behaviour within the youngest group

Similarly as in the case of the entire sample, the youngest participants consider themselves to be best informed about the climate change causes and consequences. They also know, to a certain extent, about the ways in which they may fight climate change, but are not as familiar with the climate change adaptation options (Figure 33).

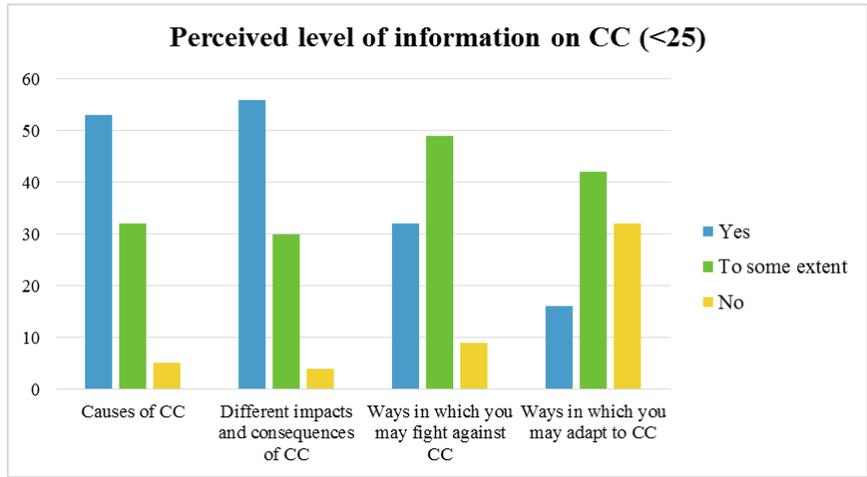


Figure 33 Familiarity with the climate change topics within the youngest group

The participants obtain climate change related information mainly through the Internet, social media and TV (Figure 34). This group is the most aware of climate change campaigns organised by NGOs, followed by those of international organisations (Figure 35).

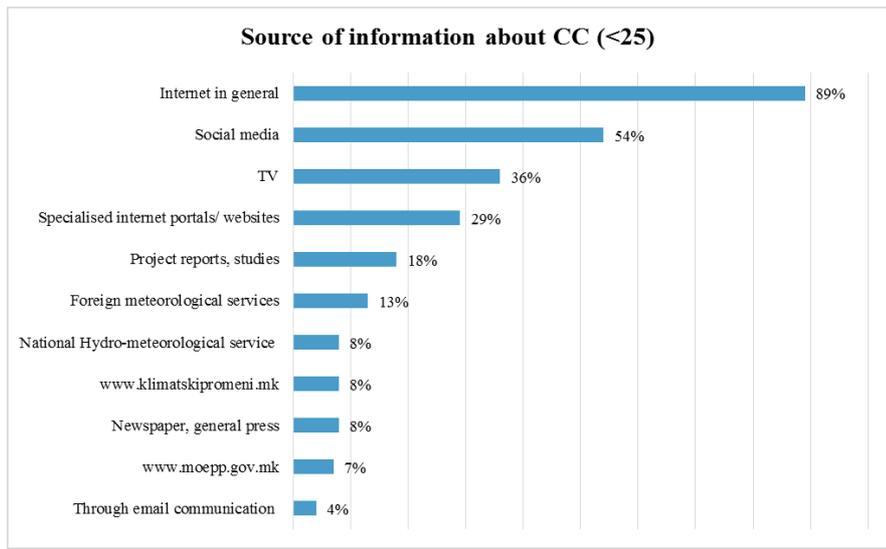


Figure 34 Information source used by the youngest group

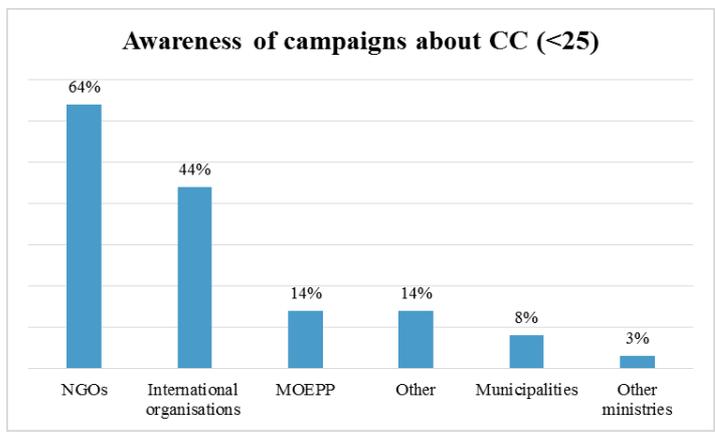


Figure 35 Climate change campaigns visibility as perceived by the youngest respondent

3.2.3. Decision-makers

This group is composed of 99 participants that work in national governmental institutions (62) and local administration (37). The decision-makers group (DM) has 42% male and 58% female participants. This group provided response to two additional questions determining specifically in which ministry or office the participants work, and to what extent climate change is a priority in their daily work. Table 1 shows that most of the respondents from DM group were from the local government. The best represented institution is MOEPP, followed by the Crisis Management Centre and National Climate Centre Committee. Other ministries and agencies are represented with 5 or less respondents.

INSTITUTION	
Local self-government units and the City of Skopje	35
MOEPP	14
Crisis management centre	8
National climate change committee	6
Ministry of Finance	5
Ministry of Education	3
Ministry of Economy	3
Ministry of Agriculture, Forestry and Water Economy	2
Environmental and health committee	2
Hydro-meteorological institutions	2
Protection and Rescue Directorate	1
Ministry of Defence	1
Ministry of Foreign Affairs	1
Agency for Promotion and Support of Tourism	1
State Environmental Inspectorate	1
Other	14

Table 1. Participants' institutions within the national and local government

For most of the participants from this group, climate change is just one of many work activities they deal with, while for 14 participants it is the main responsibility (Figure 36).

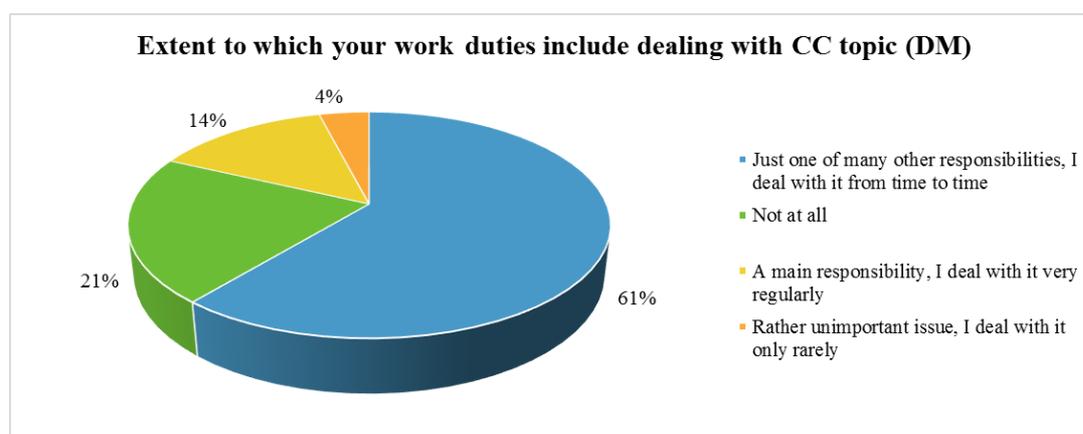


Figure 36 Role of climate change in professional responsibility of DM

Poverty and economic situation are the most serious threats for the society as perceived by the DM (Figure 37). Similarly to the entire sample, climate change is at the third place, while nuclear weapons is the least concerning.

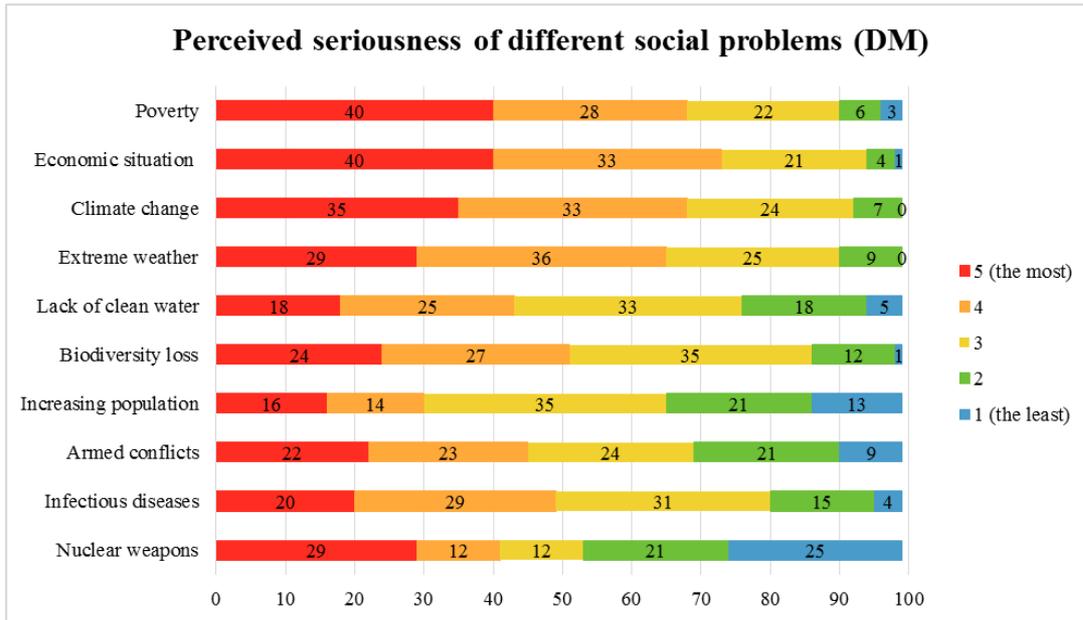


Figure 37 Most and least serious threats to the society according to DM

Decision-makers consider that most of the climate change related work has been done, at least to some extent, by environmental NGOs, by international organisations, such as UNDP and USAID, as well as by the EU (Figure 38). They believe that the national government has conducted this work only to some extent, and that the regional and local authorities, and corporations and industries have done even less in regard to climate change. Finally, according to DM, the citizens do the least for combating climate change.

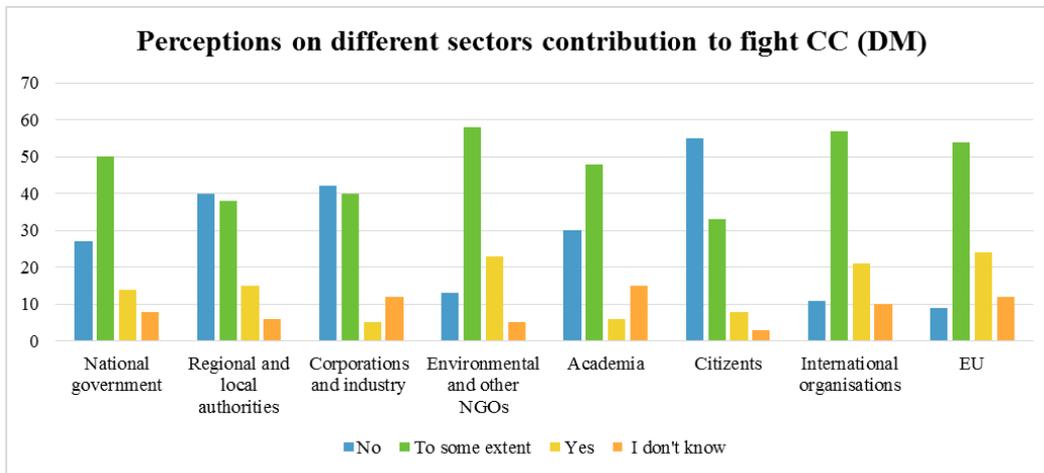


Figure 38 Different actors' engagement with climate change according to DM

This group supports environmental and climate friendly behaviour due to a desire to live in a clean and healthy environment, but also because they consider it to be their duty as citizens, and they are concerned with the future generations' wellbeing (Figure 39). This is not surprising, as managing climate change is the main or one of responsibilities for many of them (Figure 36).

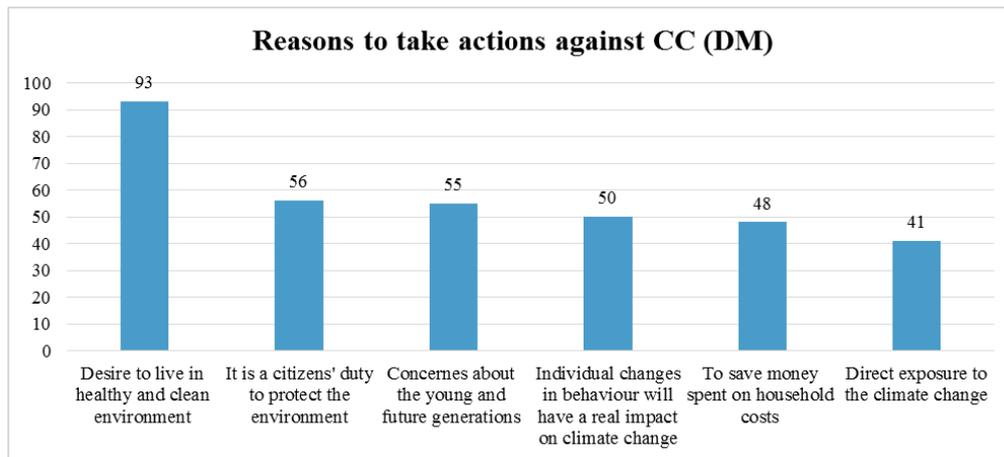


Figure 39 Motivation for environment and climate conscious behaviour within DM

As the main reason why participants from this group do not take personal actions against climate change, is the opinion that it is government and polluters' duty to do so. It is encouraging that there was no respondent representing DM who thinks that it is too late to mitigate climate change (Figure 40). Besides, the representatives of DM consider they are adequately informed about all issues related to climate change but mostly about its causes and impacts and to some extent about ways to fight against it. Participants from DM are the least informed about the ways to adapt to climate change (Figure 41).

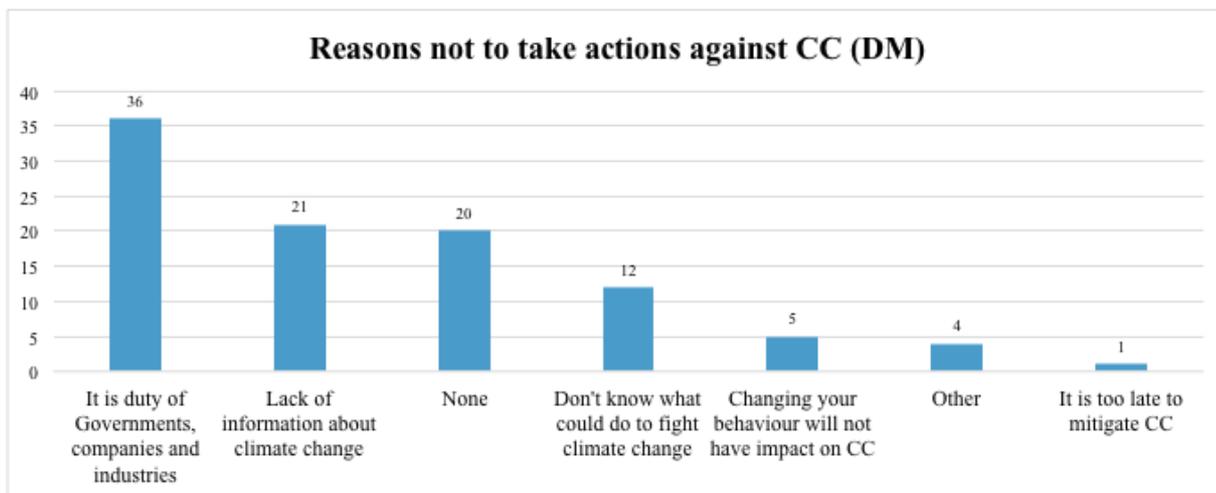


Figure 40 Barriers to environmental and climate conscious behaviour as stated by DM

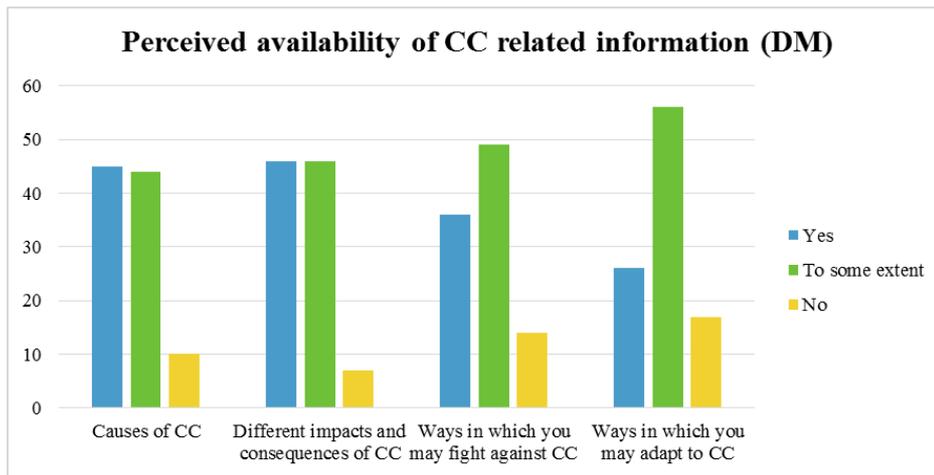


Figure 41 DM group familiarity with different climate change topics

Similarly to the results obtained for the entire sample, DM uses the Internet as the main source of information about climate change, tightly followed by TV. Social media are on the third place in case of this group. In contrast to the general sample, this group uses more often web portals, in particular www.klimatskipromeni.mk. This group also consults newspapers. Other specialised portals and websites, including www.moep.gov.mk, and project reports are also frequently used by this group (Figure 42).

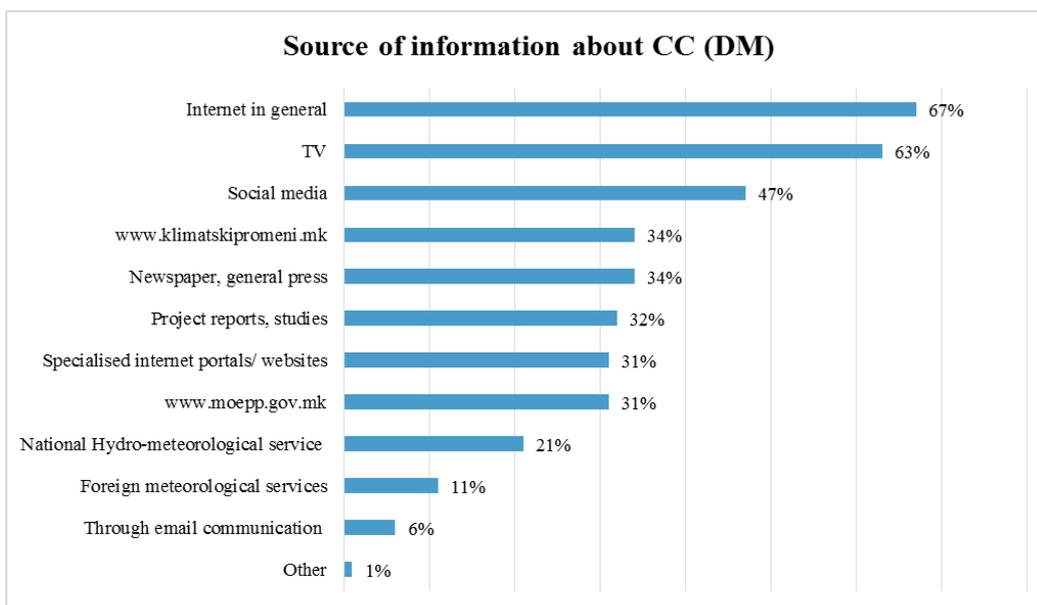


Figure 42 Climate change information sources used by DM

Most of the participants from this group have noticed an increase of climate change related writings in the media and they explain it by the increased frequency of extreme weather events (Figure 43). As the second reason this group names increase in public awareness of climate change.

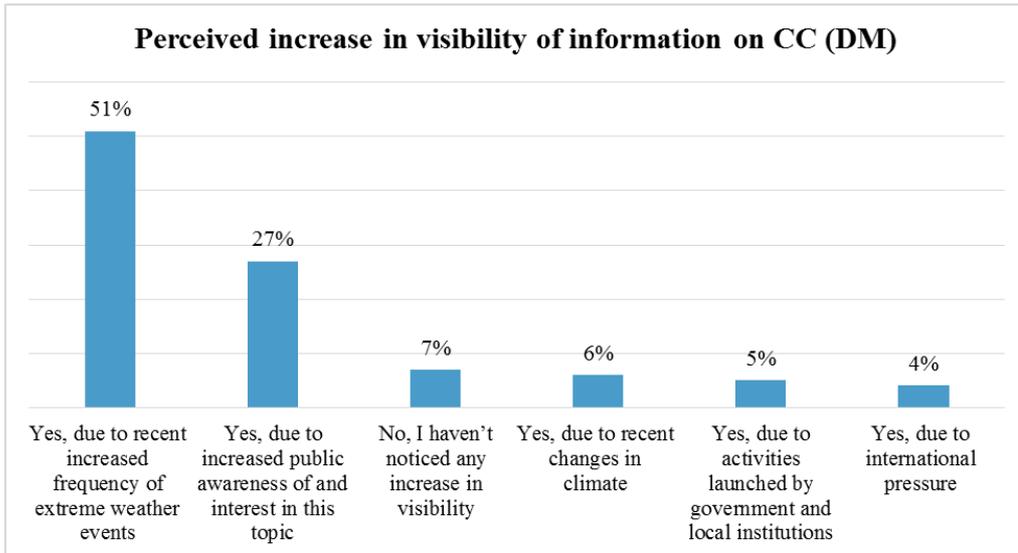


Figure 43 Visibility of the climate change topics in media as perceived by DM

This group recognises UNDP as the main frontrunner of the climate change related projects, followed by USAID (Figure 44).

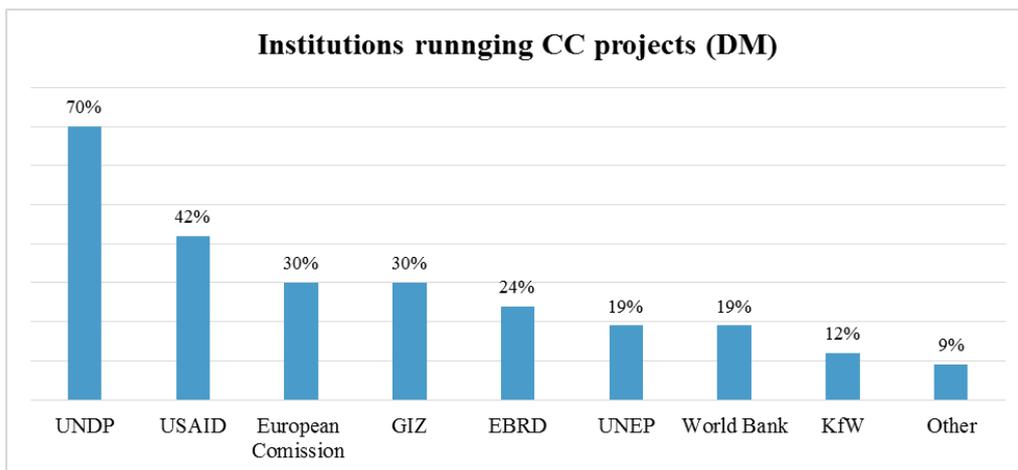


Figure 44 Institutions that conduct climate change projects known by DM

4. MAIN FINDINGS AND RECOMMENDATIONS

The survey about the awareness and perception of climate change by the citizens of Macedonia, conducted online at the end of 2016 obtained results from the participants of all age groups, except for those older than 65 years who are the least familiar with the use of new technologies and the Internet. In addition, the sample includes representatives from different parts of the Republic of Macedonia and from all variety of sectors. Unlike in the previous survey, conducted in 2014, in this survey representatives of international organisations also participated. Almost 85% of the respondents hold a university or higher degree. Comparing to the previous survey, in this analysis we reported more (5%) women among the participants. The obtained sample is also bigger by 110 respondents from the one obtained in 2014.

The most of the participants perceived poverty and economic situation as the most pressing social problems. The same finding applies for all sub-groups scrutinised in this analysis. This result differs from the one obtained in 2014, when climate change took the leading position, followed by a problem of lack of clean water. However, it seems that nuclear weapons proliferation and population increase still do not preoccupy the citizens of Macedonia, given that the current results confirm the previous trend of this social problem, ranking it again as the least serious.

The participants felt more knowledgeable about climate change than in 2014 (Figure 45). Namely, half of the participants consider they are informed about variety of climate change impacts and consequences, while in 2014, 42% of them claimed the same. Similarly, when compared to the previous results, the new survey shows an increase of 10% in those who declare well informed about causes, mitigation measure, and ways to adapt to climate change.

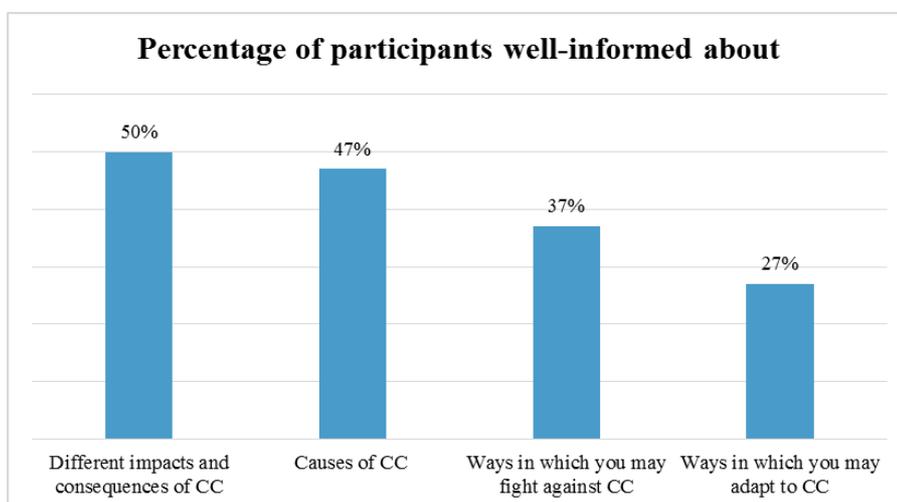


Figure 45 Well-informed participants

The most visible environmental change in the past 10 years was extreme temperature, and irregularities in seasonal shifts and precipitation patterns. Similar to current perceptions, in 2014 seasonal shifts were the first choice followed by temperature and precipitation irregularities. In addition, and same as in 2014, more than a half of the respondents relate the observed increase of the climate change topics in media to the increase in the frequency of extreme weather events.

The citizens of Macedonia are not completely satisfied with any of the suggested actors groups' contribution to fight climate change. Same as in 2014, the efforts demonstrated by the EU, international organisations and environmental NGOs are perceived as only partly sufficient, while the participants are even less satisfied with the performance of different governmental institutions, citizens, and corporations and industries (Figure 46). This result suggests that all groups of actors important for the fight against climate change should enhance their outreach, action-research and raising awareness agenda.

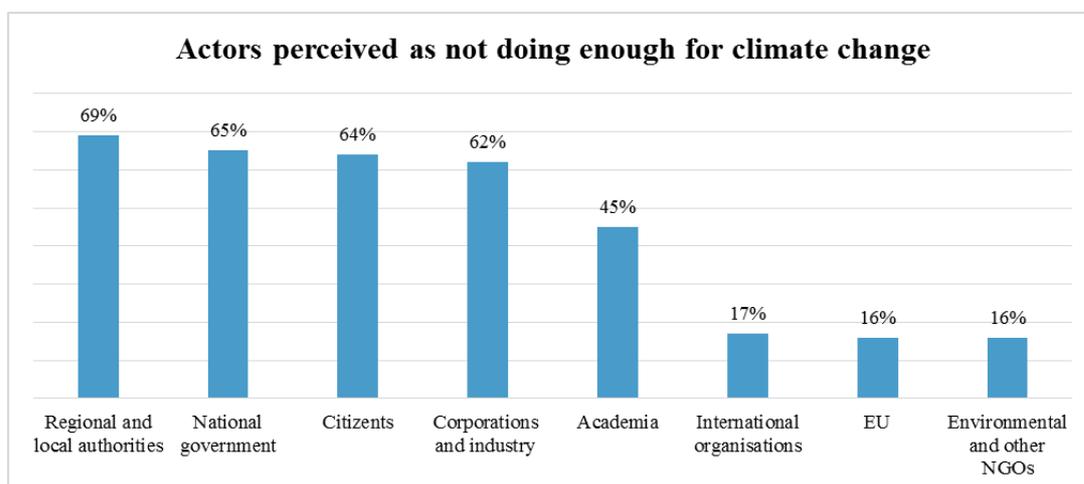


Figure 46 Actors that are NOT doing enough for climate change

Looking into activities that can mitigate climate change, the participants are most willing to reduce energy and water consumption, and to insulate their homes. Unlike in 2014, when 59% of participants expressed their willingness to use alternative transport modes, that activity was one of the least popular this year. Even within the young population – for whom alternative transport modes are currently third preferred action against climate change – there is a decrease in the popularity of this activity compared to 2014 when this was their first choice. In the past few years, there have been significant efforts in Skopje and other municipalities to improve public transport and the urban cycling infrastructure. This result can thus signal that the use of public transport and other sustainable transport modes, such as cycling, are not any more perceived as a novelty or an approach to fight climate change, but rather became a regular part of everyday commuting.

It is encouraging that almost all the respondents are willing to switch to the energy produced from alternative resources under some conditions, while even 30% would accept new price but if it is not higher than 20%. This is an increase compared to the last surveying, when 85% of the sample was willing to accept the renewables.

The main motivation for more environmentally friendly behaviour, stated by all the participants, is a desire to live in a healthy and clean environment. The second reason cited by 61% of the participants is that it is their citizens' duty to protect the environment, while 57% said it is for the sake of young and future generations (Figure 14). Encouraging is the fact that in the current analysis only 2% of the sample thinks that it is too late to act against climate change (Figure 15). This is much less than 14% obtained in the previous survey. Furthermore, it is important that none of respondents representing DM thinks that it is too late to mitigate climate change, while in 2014 there were 18 persons who felt this way.

Then again, 34% state as the reason that hinders environmental and climate conscious

behaviour a feeling that it is not citizens' duty, but the one of the government, companies and industries. Similarly, 44% of respondents provided this reason in 2014. Climate change awareness trend improved in the past two years: while in 2014 even 34% did not know how to address climate change and had a lack of information, this year this percentage is much lower, 14% and 17%, respectively (Figure 15). This finding clearly demonstrates the positive result of the efforts invested in information dissemination and sharing best practice examples. The finding that the citizens are already aware of long-term changes affirms this and further suggests that this positive trend should be maintained in the future. As suggested before, the awareness-raising stage may not be a necessary first step before communicating and discussing possible solutions to the problems associated with climate change. This further accentuates that special attention should be paid to designing climate change campaigns aimed at resulting in comprehensible and useful information sharing. Likewise, this campaign should serve for launching communication with the public, as only when climate change programmes and initiatives are informed by the public needs, their effectiveness can be assured. Besides recent efforts to increase understanding of and capacity for climate change adaptation – such as ECRAN (Environment and Climate Regional Accession Network) [work package on adaptation](#) – this topic is still the one participants are the least informed about. Further efforts and attention is thus needed to promote best adaptation practice and support development of specific adaptation measure.

Up to 73% of the participants find information about climate change on the Internet, 51% through social media, and 50% on TV. This confirms the trend noticed in the report from 2014 that social media were becoming an important way of disseminating climate change information. Consulting www.klimatskipromeni.mk and www.moepp.gov.mk webpages and other specialised Internet portals, as well as project reports, is more frequently reported by the decision-makers group. Also, we can observe that the Internet replaced TV that was the first source of information about climate change for MKC and DM groups in 2014. However, it is worrying that, same as in 2014, beside the Internet (67%) most of the decision-makers (61%) still learn about climate change from TV (Figure 42). Once again, disseminating climate change related information via email turned out to be the least popular communication channel. It is however interesting that in 2014, 23% of the respondents used scientific journals to get informed on climate change, while, besides a high education level of the current sample, it is identified as the least popular source of information, with only 2 persons using them in 2016. In addition, as suggested in the comments in the previous survey, many respondents connect visibility of the climate change issues with the increase in public awareness and interest in this topic in Macedonia.

Participants are familiar with climate change campaigns organised by international organisations and environmental NGOs and almost a half of participants is also aware of the campaigns organised by MOEPP. Interestingly, participants from out of Skopje perceive more visible those campaigns organised by international organisation and NGOs (Figure 28), while in 2014 MOEPP was leader in this field. Regarding the leaders of climate change projects, 66% of participants recognised UNDP as the most prominent institution (Figure 21). Same as in the previous report, USAID is on the second place, recognised by 44% of the participants.

Participation is a voluntary activity, and people are generally inundated with information from diverse sources, including the Internet. Thus higher number of participants comparing to the survey conducted in 2014 is a sign that the issue of climate change is appealing enough to motivate participation. Beside, email lists, websites and social media confirmed efficient channels to disseminate this survey. Macedonian citizens proved enthusiastic about collaboration on this topic and ready to be more actively involved in the climate change

governance. Decision-makers should build on this positive momentum already identified in 2014 and continue with participatory activities in the area of climate change information sharing and awareness raising.