



MINISTRY OF ENVIRONMENT AND PHYSICAL PLANNING



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Programme

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

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TABLE OF CONTENTS

1. INTRODUCTION	7
2. METHODOLOGY	8
3. RESULTS ANALYSIS	10
3.1. General results	10
3.2. Comparative analysis	21
3.2.1. Geographical particularities	21
3.2.2. Age particularities	24
3.3. Public administration	28
3.3.1. National and local level decision-makers	28
3.3.2. National level decision-makers	32
4. MAIN FINDINGS AND RECOMMENDATIONS	35
List of Acronyms	38
List of Figures	39
Reference list	41

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 *First Biennial Update Report on Climate Change*, conducted an online survey in November 2014 to provide a state of art of the public perception of climate change and information level. The survey aims at identifying key incentives for and challenges to environmental and climate conscious behaviour. It further reveals 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. 473 completed surveys were collected in two weeks period, involving 66% of participants from Skopje and the rest from other 48 municipalities represented in the sample. Participants belonged to various age groups and had equal gender distribution. Almost 80% of the sample hold a university degree and 68% are employed - majority in governmental institutions and private sector, 35% each.

Climate change is perceived as the most serious danger facing the society, while the poverty presents the second biggest threat. The awareness of climate change threat is connected to the perceived season shift, changes in temperature, rain and floods frequency. The increased incidence of extreme weather events is also the reason for the increased frequency of the climate change topic in the media. Participants are positive about contributions done by the EU, international organisations and environmental NGOs towards addressing climate change. They think that there has been insufficiently done by corporations and industries, as well as by citizens, but unsatisfactory efforts were demonstrated also by the public administration, particularly on the local and regional level.

Looking into behavioural aspects, the questionnaire reveals that Macedonians are aware of the environment and climate change when making daily decision, such as saving energy and water and using alternative transport modes. They are less conscious when making long-term decisions such as installing renewable energy equipment and purchasing a fuel-efficient car. The incentive behind climate conscious behaviour is a desire to live in a healthy and clean environment. However, impediment to environmental friendly practice is a perception that it is not a duty of individuals, but of the Government, industries and companies, as well as lack of information and knowledge about activities that can help fight climate change. Notwithstanding, 85% of participants are willing to pay higher price for energy produced from low-carbon or renewable resources, if the price is reasonable and the source guaranteed.

Participants are generally interested and follow climate change activities in the country, and to some extent in the world, and they feel informed about the causes and consequences of climate change. Some participants are also informed of the ways to address climate change, but participants lack the knowledge about adaptation. The Internet is an important climate change information source – the Internet in general for 70% of participants, Social media for 42% and specialised Internet portals for 30%. However, conventional media, particularly TV, are still popular among Macedonian citizens and 61% of participants obtained information through this source.

Participants are familiar with climate change campaigns organised by international organisations and environmental NGOs, and more than half of the participants are aware of the campaigns organised by the Ministry of Environment and Physical Planning (MOEPP). MOEPP is also recognised by 70% of participants as a leading institution in conducting climate change related projects.

Participants were proactive in leaving comments to specific questions and to the questionnaire in general, and 40% of participants left their email address for further communication. The comments provided more specific information and demonstrated that Macedonian citizens are 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 and continue with participatory activities in the area of the climate change information sharing and decision-making.

1. INTRODUCTION

The Climate Change Communications Strategy and Action Plan of the Republic of Macedonia was developed as a part of the Third National Communication on Climate Change. The aim of the Strategy was to enhance the outreach to the target groups on the national and local level and raise their awareness on issues pertaining climate change. The Communication strategy considered results from EUROBAROMETAR global climate change survey from 2008. This global survey involved citizens of the Republic of Macedonia. The goal of the survey was to capture people's voices, priorities and views, and inform global leaders while defining the new development agenda.

According to the results from EUROBAROMETAR, Macedonians considered climate change the third most serious problem facing the world in 2008. 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 *First Biennial Update Report on Climate Change*, conducted an online survey in November 2014 to bring up to date this information. The survey aimed at understanding the public perception of and behaviour towards climate change. The results of the research should help in better designing and communicating of future activities related to the climate change, with an ultimate goal to promote climate change policies and enhance climate change governance in the country.

The Communication Strategy recommends a thorough understanding of the target audiences and the right mix of communications tools. Achieving a meaningful participation, which assumes an action influencing outcomes through active involvement of the public in decision-making (Paavola, 2004), is essential for the climate change governance (Few et al., 2007). Furthermore, a new societal trend is associated with the emergence of Information and Communication Technologies (ICT) and, therefore, the communication and involvement of the public through participatory activities should correspond to this actual societal trend. In accordance to that, this research is based on an online survey, as a part of a broader eParticipation approach, which presents a set of technology-facilitated participatory processes that enable two-way communication between governments and citizens (Sabo et al., 2008).

The results of this survey will provide a state of art of the information level and public perception of climate change, specifying the well-known topics and those with a lack of knowledge. Furthermore, the survey will identify the key incentives for and challenges to environmental and climate conscious behaviour. The results should also shed light on the most popular media for obtaining climate change related information, on campaigns and institutions working in this filed having the highest visibility, and on institutions Macedonians see as the most proactive in conducting climate change projects.

2. METHODOLOGY

The questionnaire was conducted in Macedonian language. It was composed of 21, mostly close-ended questions, divided into four sections. The first section included socio–demographic information and description of the participants, including their age, sex, municipality of origin, education, and employment status. This section contained two additional questions aimed for those participants employed in governmental institutions. The second section provided ranking of the potential threats to the society, based on their severity. It further investigated perception of changes in the environment in the past 10 years and participants’ familiarity with the climate change related activities. The third section analysed behavioural aspects, in particular looking into 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 fourth section of the questionnaire looked into information sources. It 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 for the first set, most of the questions were of a multi-response type and had fields available for additional comments. The last two questions offered participants the options of leaving their additional comments and contact details for further communication.

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.

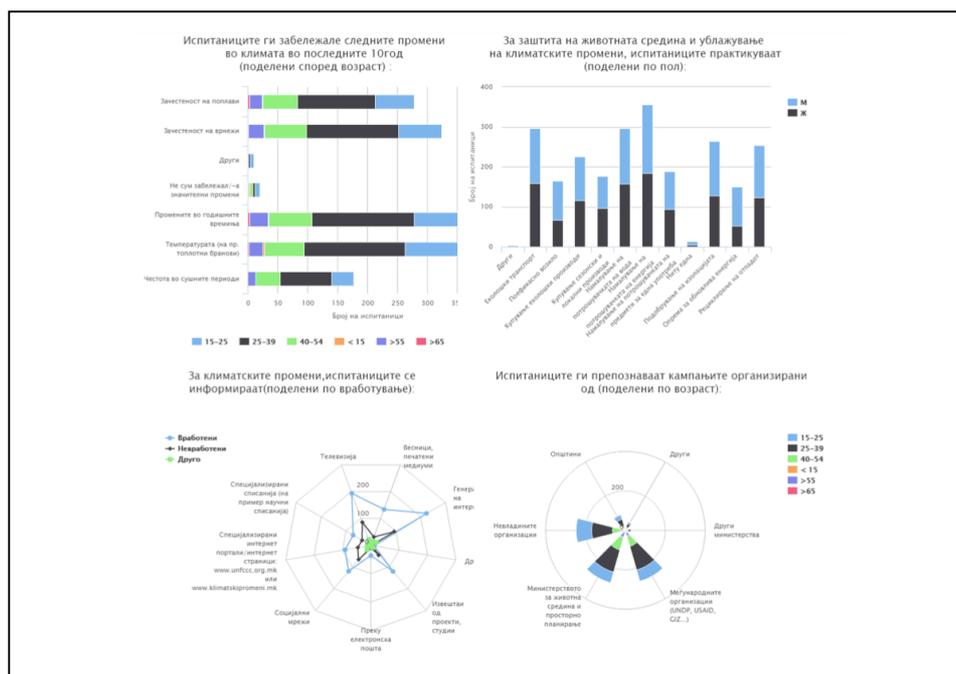


Image 1. Automatic results calculation. From top left to right: Observed climate changes in past 10 years, reflecting age groups; climate friendly activities practiced by participants, reflecting gender divide; climate change information source, for employed and unemployed participants; visibility of climate change campaigns, reflecting age groups.

The questionnaire was distributed through various mailing lists, including 667 recipients from governmental, academic and NGO sector. The questionnaire was also distributed through different Macedonian online news portals, such as MIA (Macedonian Information Agency), Porta3, Ekonomsi.mk, Kicevo.mk, Netpress, Kanal5, a1on, Tocka, and Macedonian radio. 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 (Fig. 1). The target audience was specified according to the location- Macedonia. The survey based on the Facebook advertising campaign was being run for 10 days. The questionnaire was also promoted through various twitter accounts.



Fig. 1 Facebook advertisement

3. RESULTS ANALYSIS

3.1. General results

This analysis is based on 473 results received in two weeks of conducting the online questionnaire.

Figure 2 shows participants' age distribution. Although all age groups are present in the sample, we can see that almost half of the participants (45%) belong to the age group 25-39.

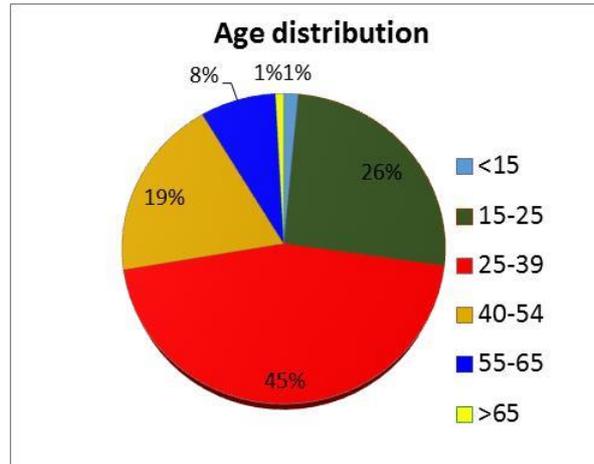


Fig. 2 Age distribution

Figure 3 shows even gender distribution in the sample, with 241 female and 232 male participants.

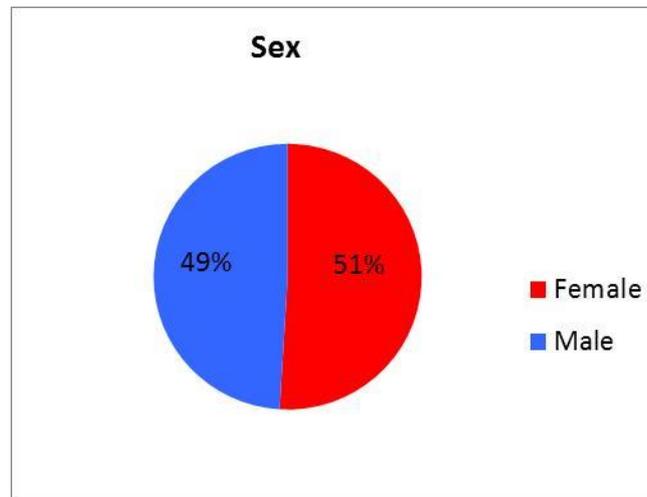


Fig. 3 Gender distribution

Figure 4 demonstrates that majority of participants in the sample holds a university degree.

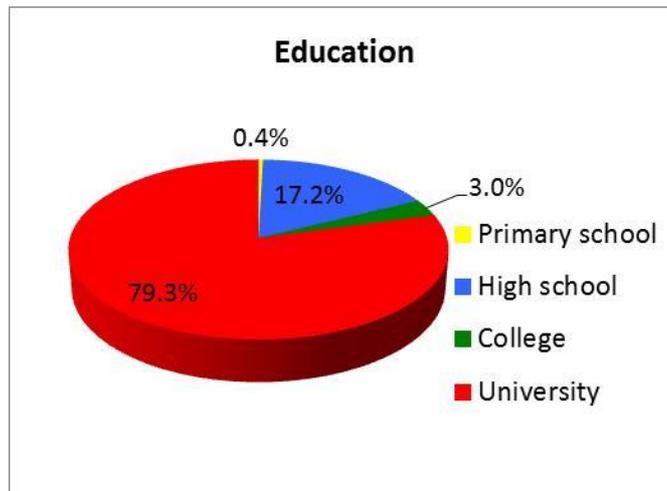


Fig. 4 Education

57 municipalities are represented in the sample (Fig. 5). Except for Cair and Suto Orizari, with 10 and 1 participant respectively, other 7 municipalities of the City of Skopje have the highest number of participants, i.e.. Karpos - 76, Aerodrom - 72, Centar - 62, Kisela Voda - 34, Gazi Baba - 24, Gorce Petrov - 20, Butel -12. The two most populated municipalities from the rest of the country are Prilep and Bitola, with 16 and 12 participants, respectively.

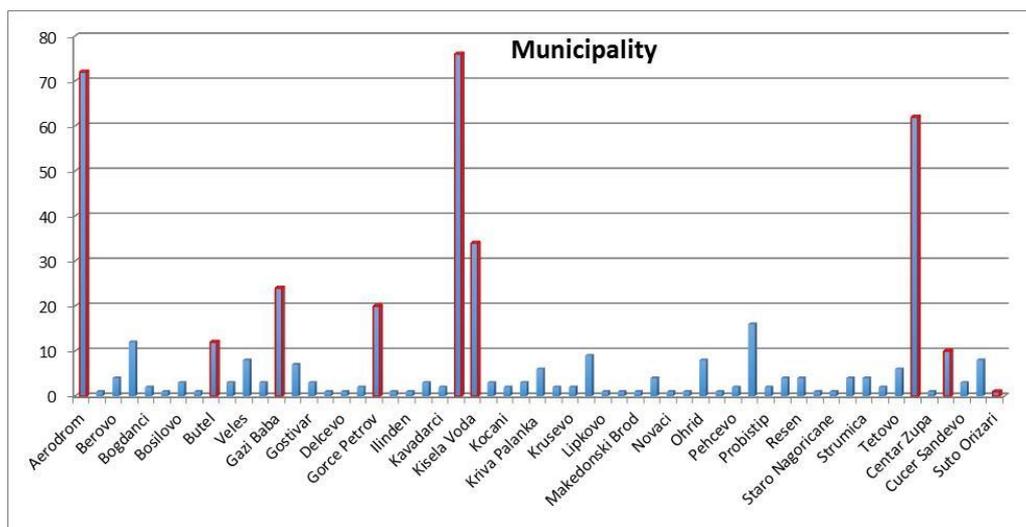


Fig. 5 Participants' municipalities

Most of the participants from the sample (68%) are employed (Fig. 6).

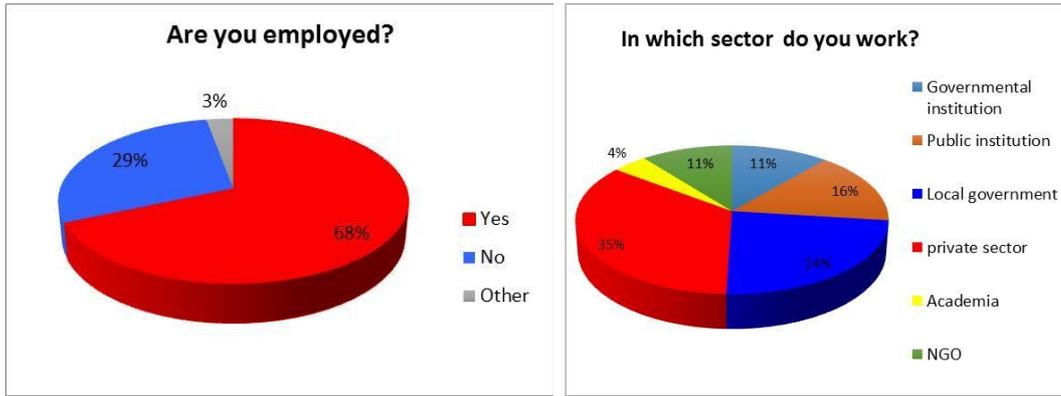


Fig. 6 Employment rate (left) and sector (right)

Figure 7 shows how participants ranked possible threats to our society, where 5 means the most serious and 1 the least serious threat. We can see that most of the votes were allocated to climate change as the most serious threat, followed by poverty and lack of clean water. Then again, the participants were least concerned about nuclear weapons proliferation.

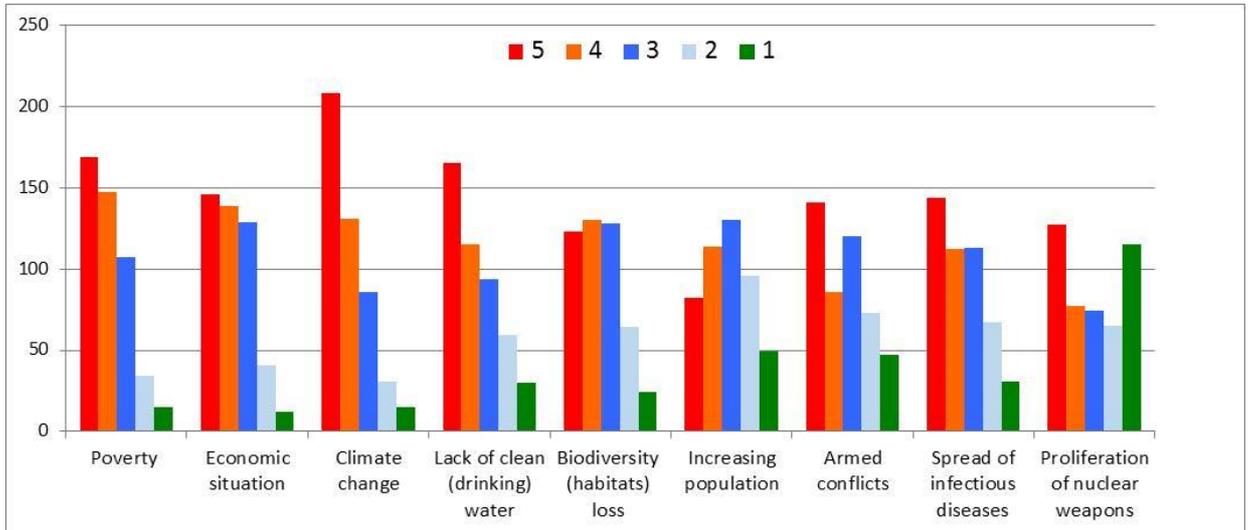


Fig. 7 Ranking of the possible threats to the society

The following figure looks into same results, but focusing only on extreme ranking: the most serious threats are those ranked with 4 and 5, while the least serious threat is given to those issues that were ranked with 1 or 2.

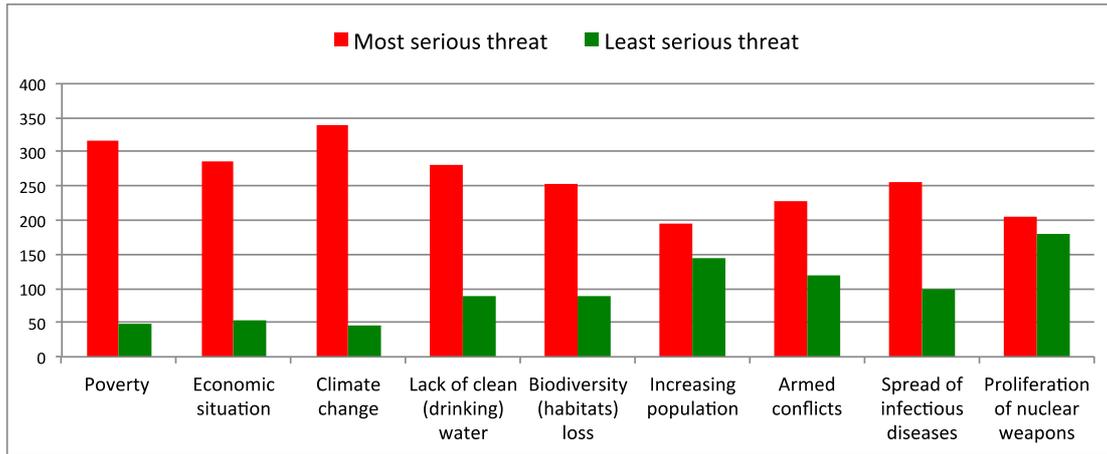


Fig. 8 Most and least serious threats to the society

Besides the nine possible threats listed in the questionnaire, the participants also suggested the following issues as a serious danger for the society: air pollution, deforestation, GMO, social inequality, unemployment, corruption and religious conflicts.

Asked if they had noticed some particular changes in the environment or climate in the past 10 years, participants marked the following aspects (Fig. 9):

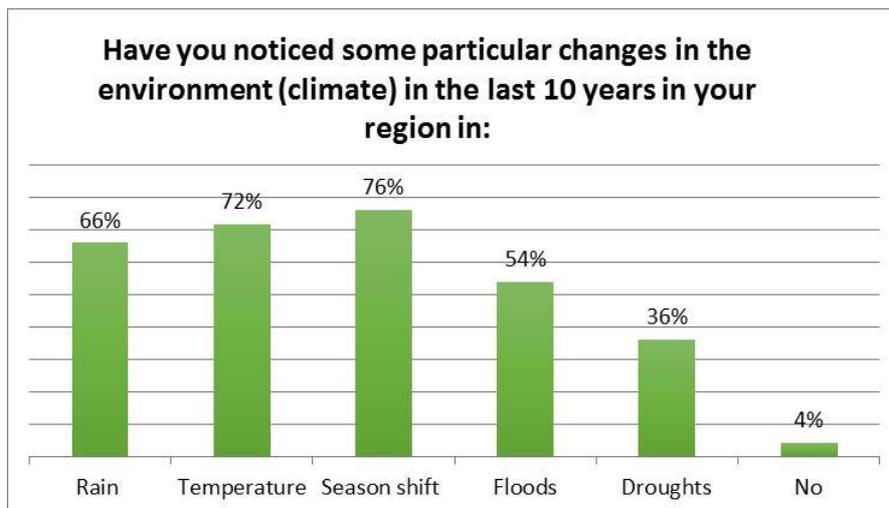


Fig. 9 Environmental (climate) aspects in which participants noticed changes in past 10 years

Figure 10 shows that most of the participants follow climate change related activities in the country, as well as in the world. Still, more than 100 participants (104) do not follow these activities in the world.

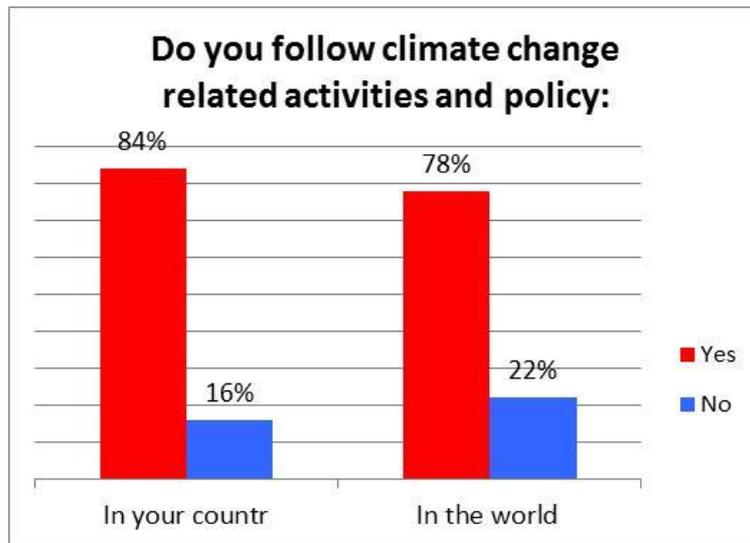


Fig. 10 Participants' interest in climate change related activities in the country and the world

Figure 11 shows participants' opinion over the question whether different actors are doing enough for climate change.

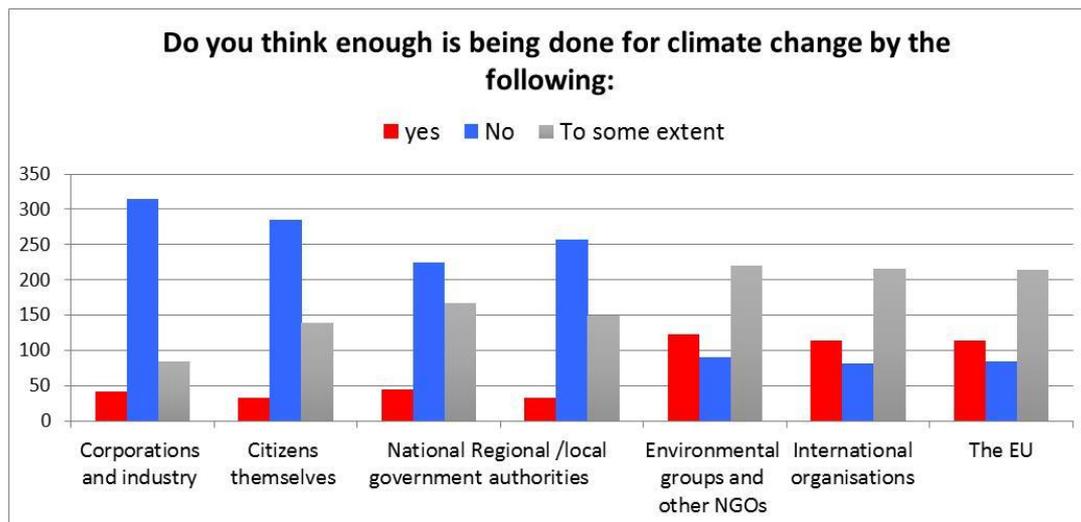


Fig. 11 Participants' opinion over different actors' engagement with climate change

Figure 12 analyses whether participants consider environment and climate while making decisions related to their daily and purchase activities. Most participants answered that they considered energy reduction, followed by reduction in water consumption and use of alternative transport modes. The least popular is installing of renewable energy equipment and purchasing of fuel-efficient cars. Unlike the rest of the offered practices that might be conducted on a daily basis, the latter two might present decisions a participant has not yet been confronted with and thus found difficult or meaningless to provide an answer.

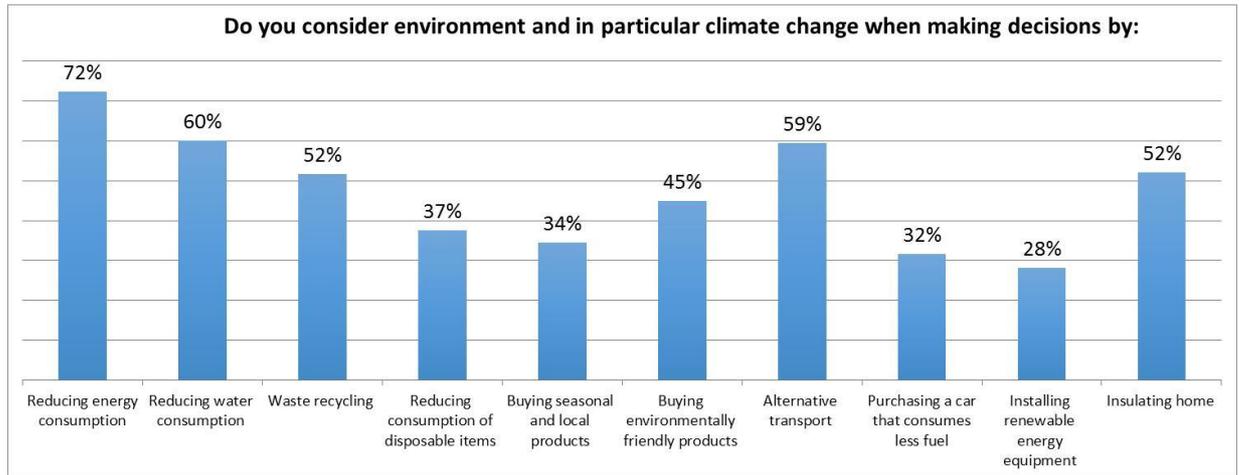


Fig. 12 Environmental and climate friendly activities practiced by participants

Figure 13 shows reasons behind above mentioned environmental conscious decisions.

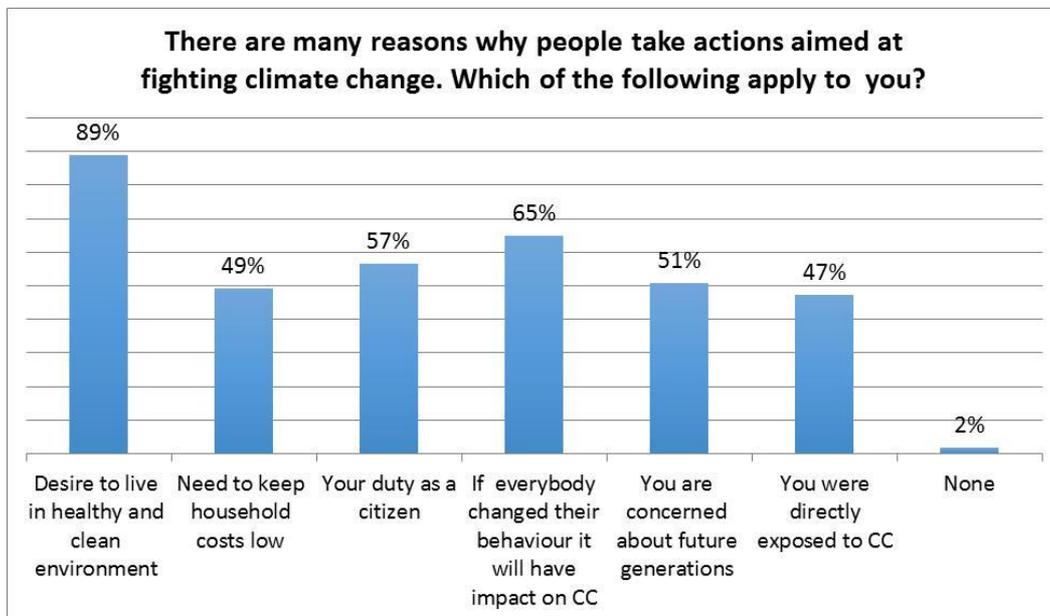


Fig. 13 Reasons that trigger environmental and climate friendly behaviour

Figure 14 shows possible barriers to environmental and climate friendly behaviour. Most of the participants consider that it is not their duty, but the one of the Government, companies and industries. Interestingly, many of participants stated that lack of information and hesitation about what could be done to tackle climate change also hinder climate friendly practices. Finally 24 participants, 5% of the sample, are not concerned about climate change.

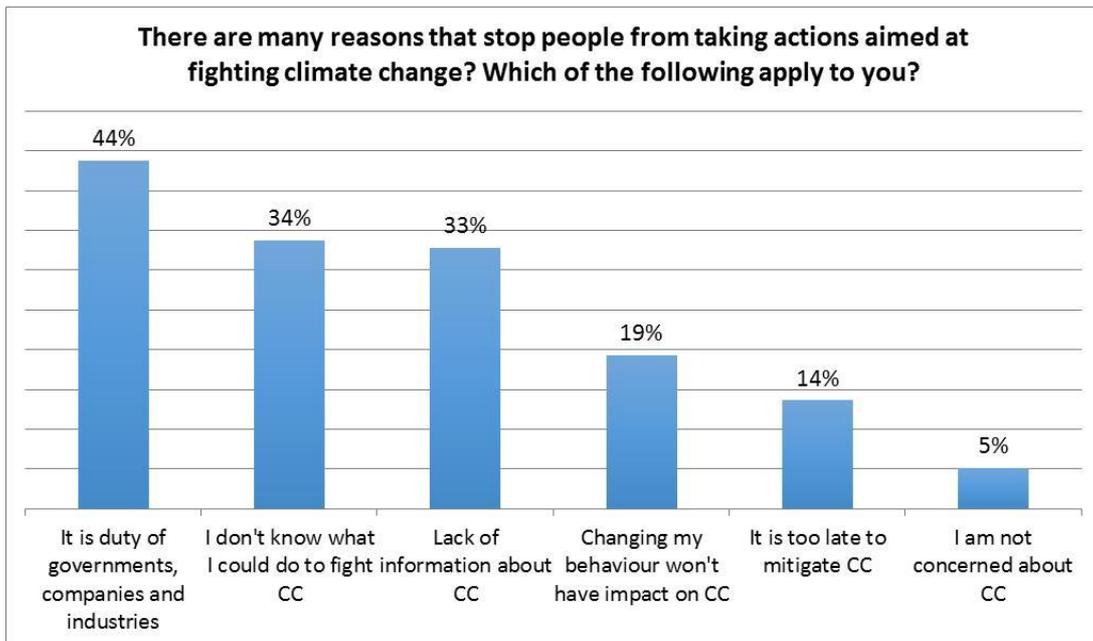


Fig. 14 Barriers to environmental and climate friendly behaviour

Besides the above mentioned reasons, the participants also stated that: there were more urgent problems (such as economic crisis and poverty); tackling climate change needed profound awareness change; and that there was lack of infrastructural support. One participant also stated that he/she didn't believe in climate change.

Figure 15 shows participants' opinion about more expensive energy coming from low carbon or renewable resources.

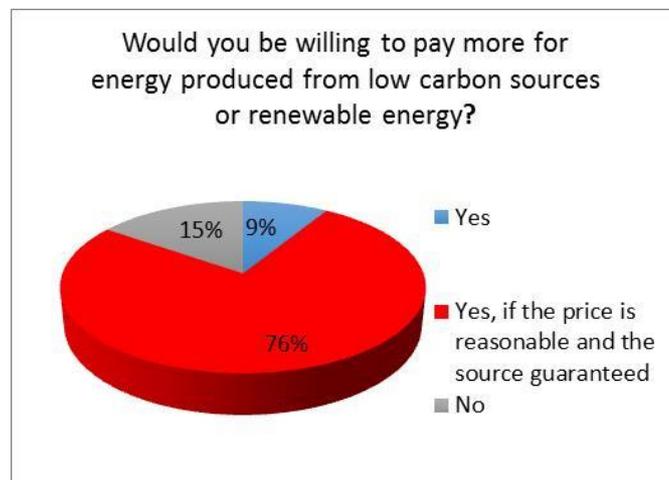


Fig. 15 Payment for alternative energy resources

Figure 16 shows whether participants are informed about different climate change related issues.

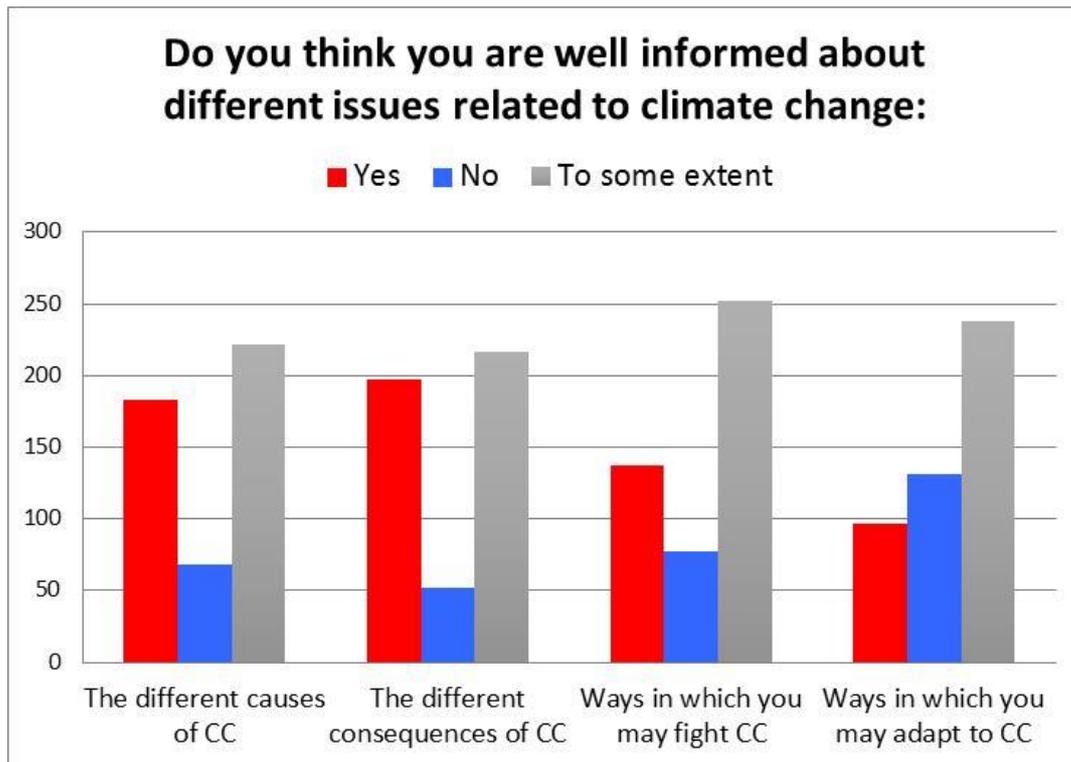


Fig. 16 Familiarity with different climate change related issues

Figure 17 shows from which media and other sources participants obtain climate change related information.

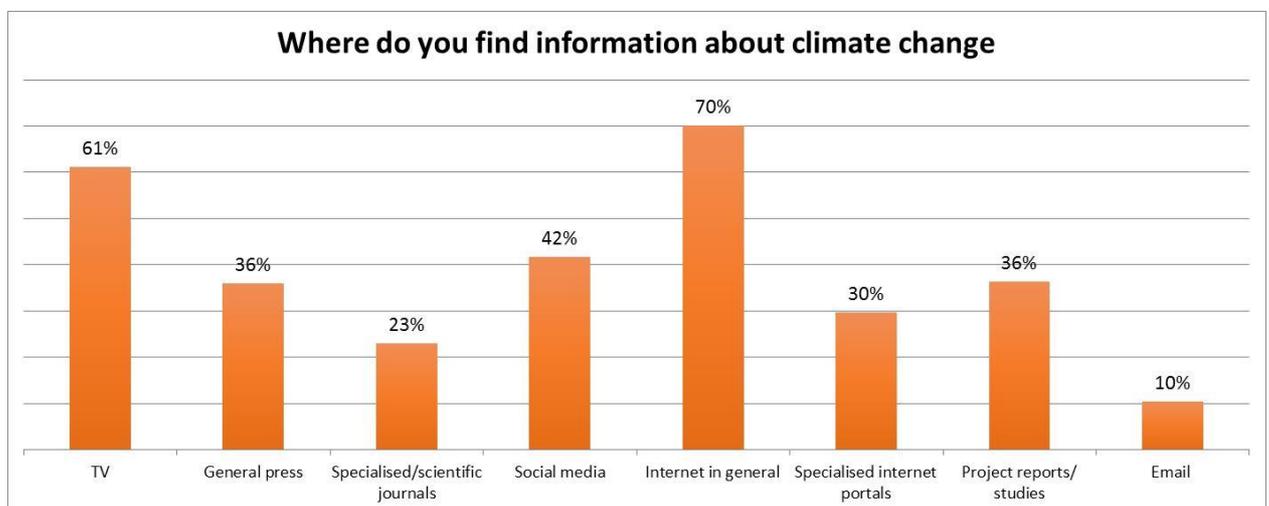


Fig. 17 Climate change information source

Most of the participants learn about climate change through the Internet and TV. Besides, the participants also find relevant information in social media, general press and project reports and studies. 140 participants consult specialised Internet portals, such as www.unfccc.org.mk and www.klimatskipromeni.mk. The least convenient way of disseminating climate change related information is email, according to our

participants – only 49 of them rely on this source.

Besides the listed sources, participants also receive information through national and international climate change campaigns, trainings and seminars, NGOs (such as 350.org, Greenpeace and Bidi Zelen), and local climate change strategies.

400 participants noticed an increase in the visibility of climate change related topics in media in recent times (Fig. 18). Most of them (240) consider that this is related to increased frequency of extreme weather events, such as extreme precipitations, floods and gales. Besides, a few comments suggested that the reason is general popularity of the climate change topic.

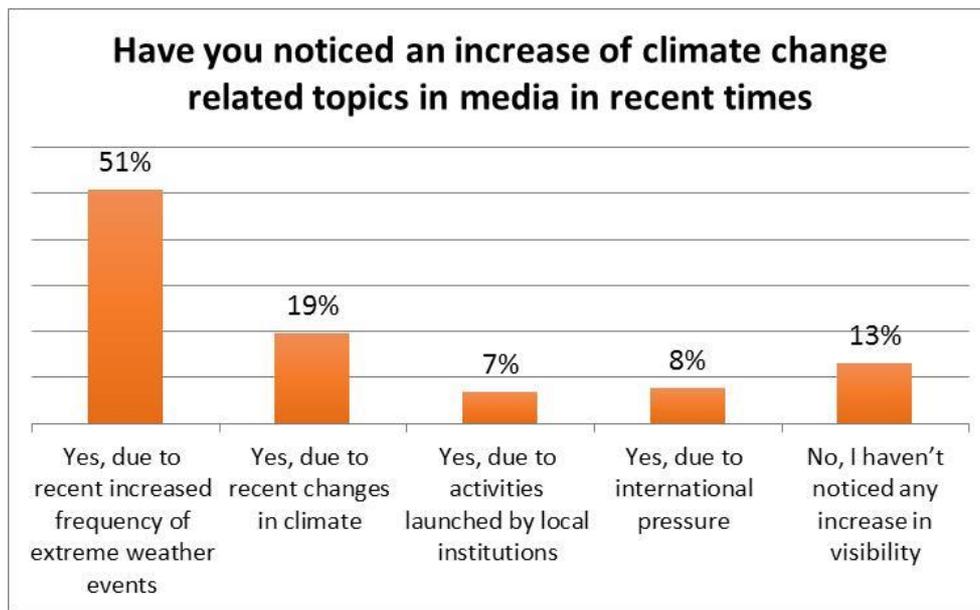


Fig. 18 Perception of increased visibility of the climate change topic in media

Most of the participants are aware of public awareness campaigns conducted with the aim to improve the climate change knowledge, awareness, or influence perception, organised by international organisations, such as UNDP, USAID, GIZ and different NGOs (Fig. 19). 262 participants are also aware of campaigns organised by the Ministry of Environment and Physical Planning.

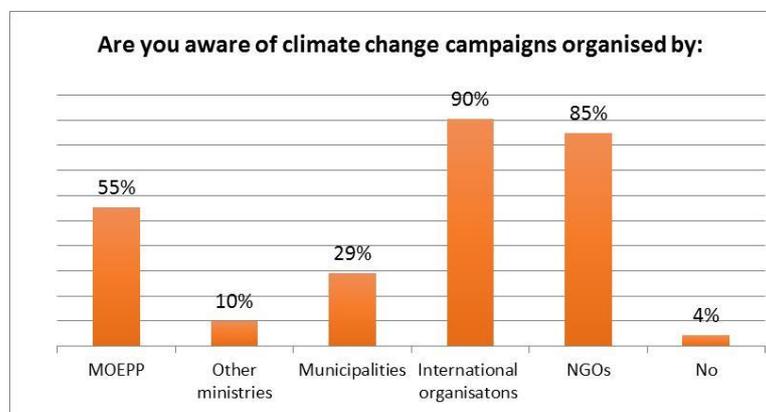


Fig. 19 Awareness of climate change campaigns

Among successful campaigns participants listed: Den na drvo (National tree day), recycling related campaigns, and extreme temperatures early warning campaigns. One comment suggested that it is not enough to have awareness raising campaigns, but the campaigns should also incite actions that would tackle climate change.

Figure 20 shows which institutions participants connect with climate change related projects. Most of the participants (325) relate MOEPP with climate change projects. Other institutions with high visibility in this field are UNDP, USAID, and European Commission (EC), stated by 265, 162 and 99 participants, respectively. 13 participants are not aware of active institutions in this field. Among other suggested institutions are: Go Green, REC, WWF, Na Tocak, Milieukontakt, WHO, the Ministry of Economics and Hydro-Meteorological Department.

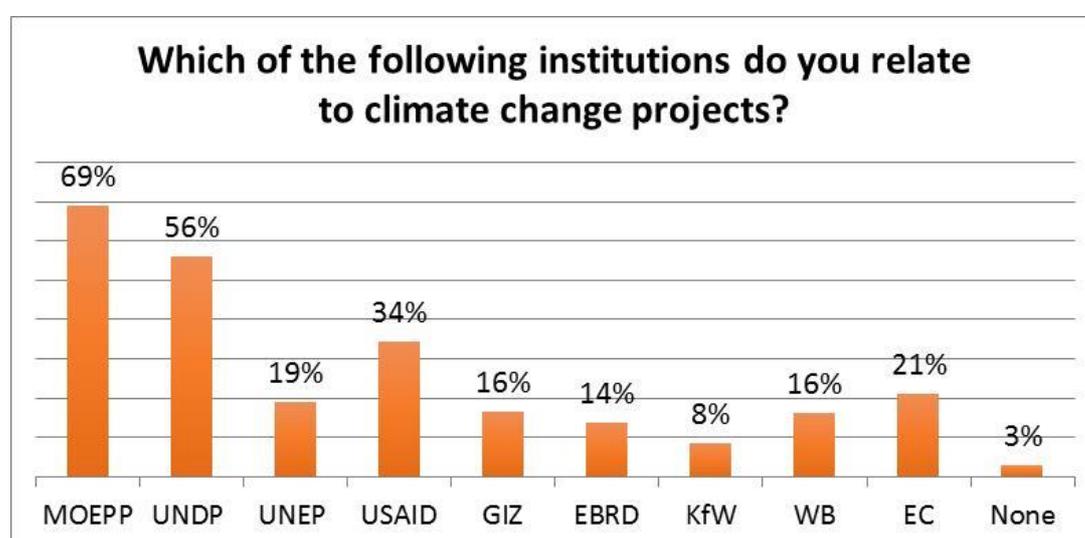


Fig. 20 Institutions related to climate change projects

At the end of the questionnaire, 178 participants left their email address for further communication.

As a response to our last question, 68 participants left comments. Most interesting insights from this question are grouped under the following topics and suggestions:

- The climate change issue asks for more active communication and information sharing;
- Climate change campaigns should use simple and clear language;
- Climate change campaigns should be conducted on social media, as Macedonian citizens spend lot of time at these spaces;
- Our citizens should learn about good practices in tackling climate change;
- Climate change education is needed for the youngest citizens, but also education for grown-ups could be beneficial, particularly in the area of recycling;
- Everyone should accept personal responsibility and sometimes forget their own comfort for the sake of the environment, e.g. by using public transport instead of private vehicle;
- Alternative energy resources are not necessarily more expensive;
- Severity of the issue of deforestation.

Besides these comments that addressed the topic of this research, 11 participants provided comments to the structure and usefulness of this survey as well. Namely, five participants criticised the survey, three on the base of its structure – that the questions were not clear enough, and two on the content base – that there was no use of this type of research. Then again, five participants estimated the research as very relevant, and according to one comment this research was a positive sign proving the presence of activities focused towards addressing climate change problem in Macedonia.

Obtained comments are presented in Figure 21 as a “word cloud”. The cloud gives greater prominence to words that appear more frequently among the comments obtained in the last question of the questionnaire.



Fig. 21 Word cloud presenting frequency of the words used in the comments to the questionnaire (source: Wordl.net)

3.2. Comparative analysis

This section presents characteristics of some sub-groups of the participants' sample.

3.2.1. Geographical particularities

Nine of the 10 municipalities that compose the city of Skopje are present in the sample and 66% of participants came from these municipalities. Ladies are dominant, making 59% of this group, against 41% of male participants. Conversely, male population was more proactive in other municipalities, presenting 64% of the group that covers all municipalities from the sample, excluding the city of Skopje.

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 similar perception of the possible threats to our society within the two groups. Both groups see climate change and poverty as the most serious threats. However, citizens of Skopje (upper graph) see armed conflict as a threat, while the opinion is divided within the other group. Unlike SKC, MKC perceive proliferation of infectious diseases as the least serious threat.

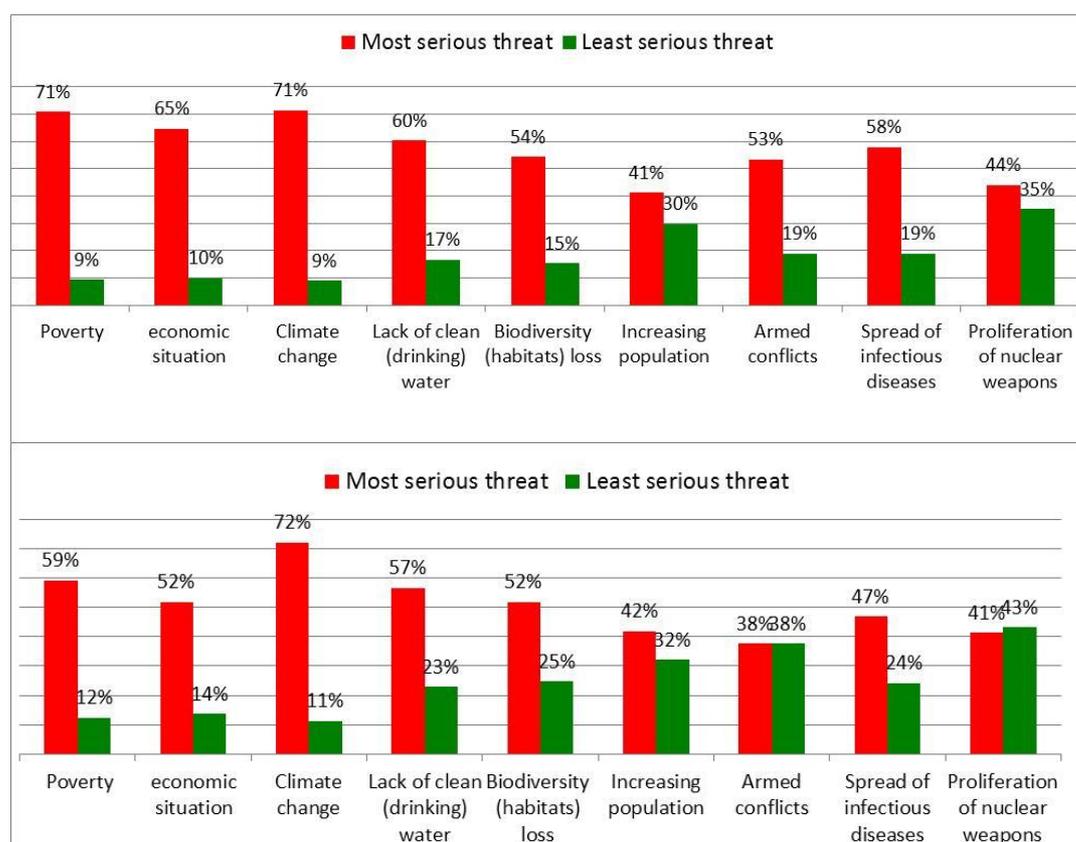


Fig. 22 Most and least serious threats to the society, according to SKC (upper graph) and MKC (lower graph)

Figure 23 shows the decisions influenced by climate consciousness. The result is similar for both groups and resembles the general results (Fig. 12). Still, MKC group

ranked relatively higher use of renewable energy equipment; this activity could be more appealing in smaller urban or rural surroundings. Then again, citizens from Skopje are more willing to reduce energy and water consumption.

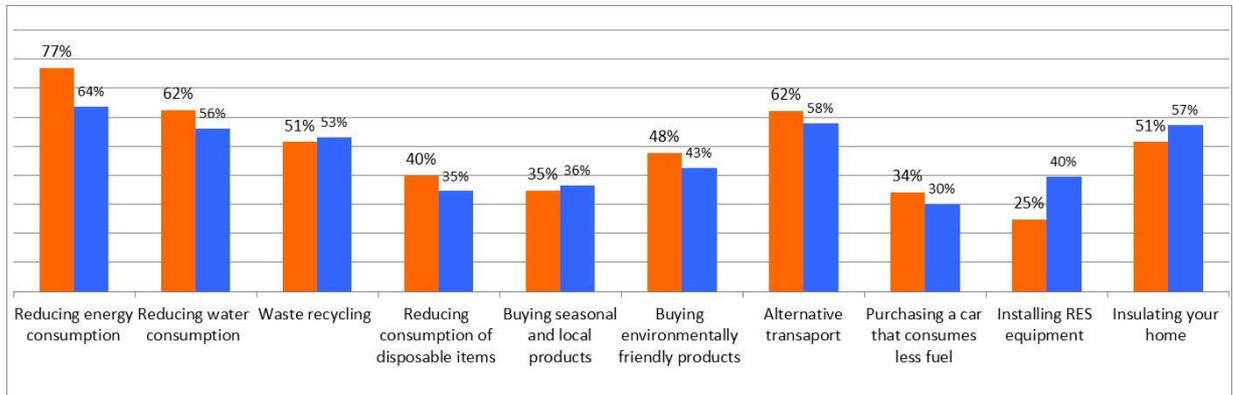


Fig. 23 Environmental and climate friendly activities practiced by SKC (orange) and MKC (blue)

Accordingly, MKC group is more willing to pay higher price for energy produced from low carbon sources or renewable energy (Fig. 24).

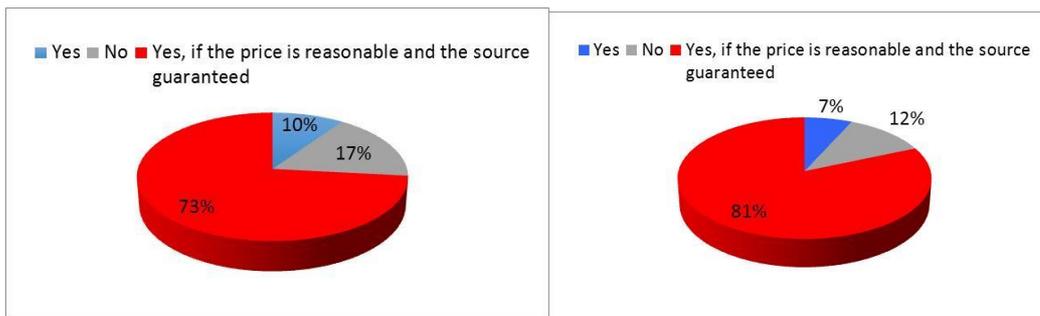


Fig. 24 Answer to higher payment for alternative energy resources by SKC (left) and MKC (right)

Comparing the answers to the question referring to the barriers to environment and climate conscious behaviour, we can see that MKC group is less optimistic about future of climate change. Namely, even 25% of this group think that it is too late to tackle climate change, or they do not worry about it, comparing to 15% of the SKC group.

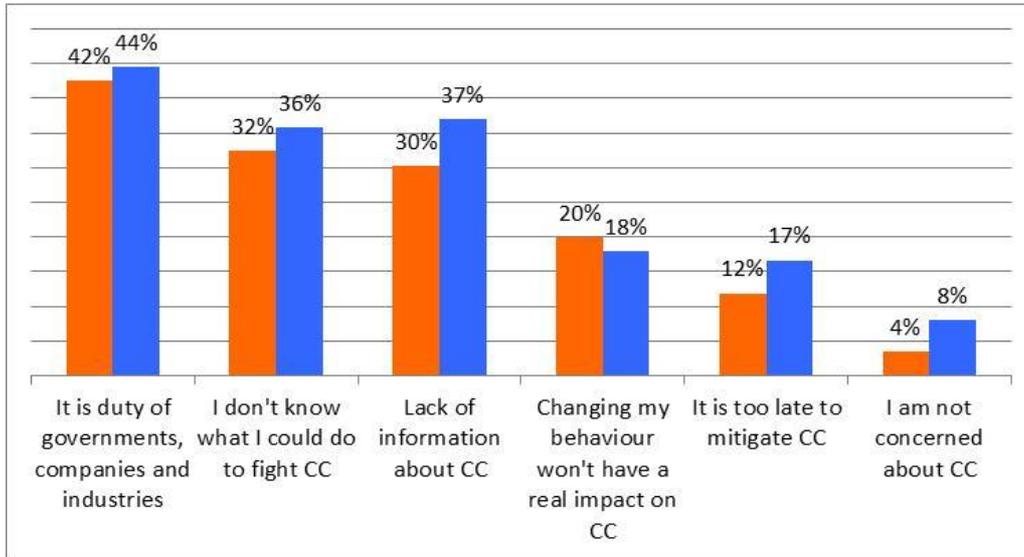


Fig. 25 Barriers to environmental and climate friendly behaviour, as stated by SKC (orange) and MKC (blue)

Comparing the answers to the question about participants' familiarity with different climate change related issues, we see that MKC is particularly familiar with different climate change consequences, but lacks information on climate change adaptation.

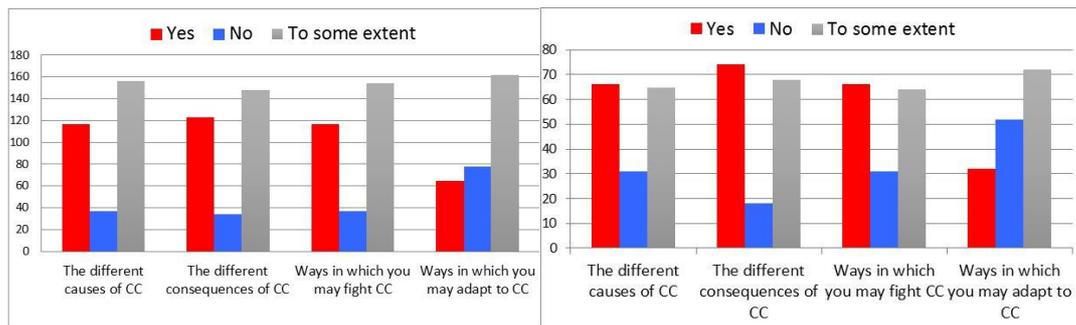


Fig. 26 Familiarity with different climate change related issues, by numbers of participants from Skopje (left) and the rest of Macedonia (right)

The group from Skopje receives climate change related information from the Internet, while TV is on the second and social media on the third place. MKC group predominantly receives information from TV, the Internet is on the second place, while Social media and general press share third place (Fig. 27).

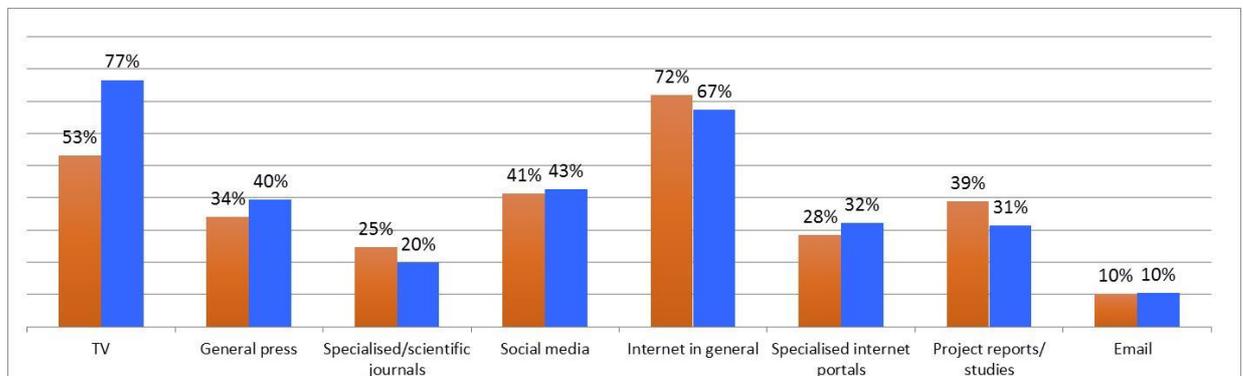


Fig. 27 Climate change information source for SKC (orange) and MKC group (blue)

Participants from Skopje are aware of climate change campaigns conducted by international organisations, NGOs and MOEPP. MOEPP is the most proactive institution in the field of climate change campaigning according to the MKC (Fig. 28).

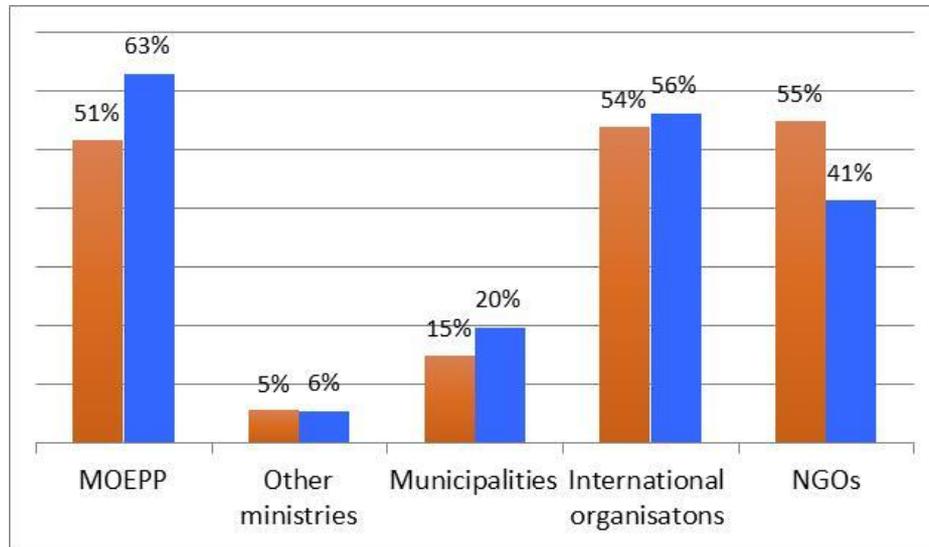


Fig. 28 Awareness of climate change campaigns, perceived by SKC (orange) and MKC (blue)

3.2.2. Age particularities

Bearing in mind that young people will be future climate change leaders, and in line with the comments that education is important for establishing environmental and climate conscious behaviour, this section looks into specific answers provided by the group of 129 youngest participants in the sample, aged 25 and less. The group has equal gender distribution, with 64 girls and 65 boys.

Figure 29 shows the potential threats the youngest participants consider to be the most serious ones. Similarly to the overall results (Fig. 8), this group is most worried about climate change, putting a spread of infectious diseases on the second place. Interestingly, this group is relatively less worried about increasing population and proliferation of nuclear weapons.

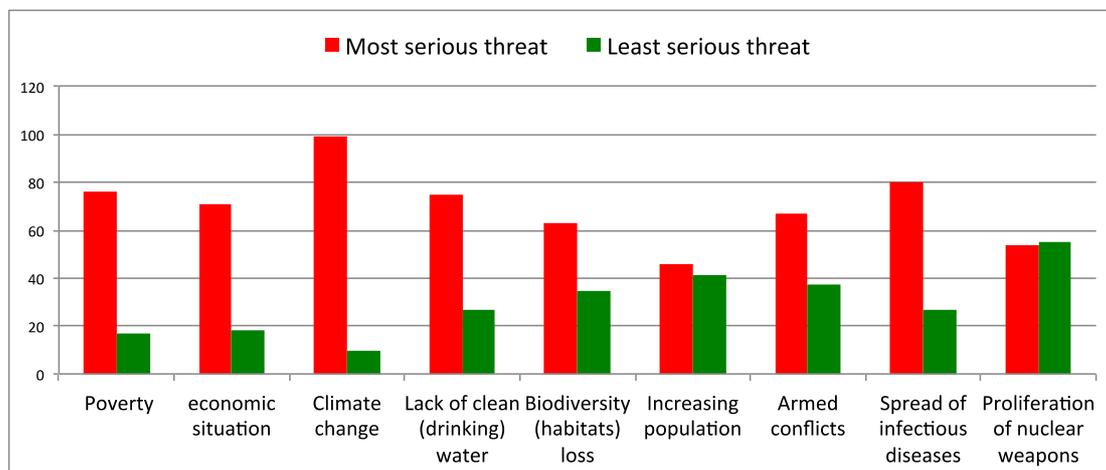


Fig. 29 The most and the least serious threats to the society according to the youngest group

Figure 30 shows that comparing to the whole sample (Fig. 9), the youngest group is slightly less interested in the following climate change related activities, both in the country and in the world.

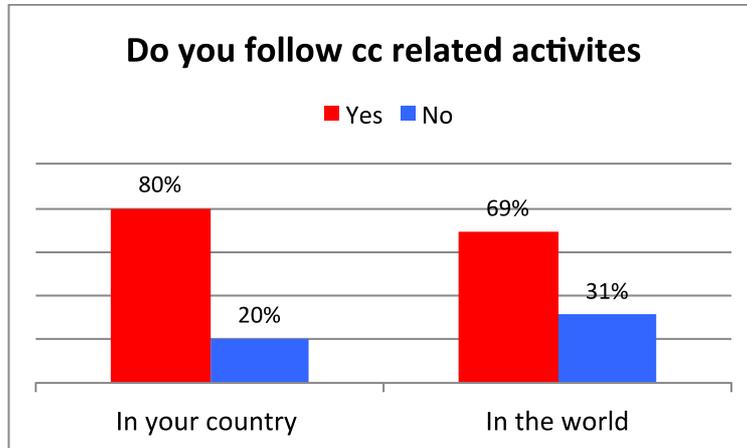


Fig. 30 Participants' interest in climate change related activities

Figure 31 shows that the youngest group considers the environment particularly through using alternative transport modes, such as cycling, walking or public transport, reducing water and energy consumption and recycling.

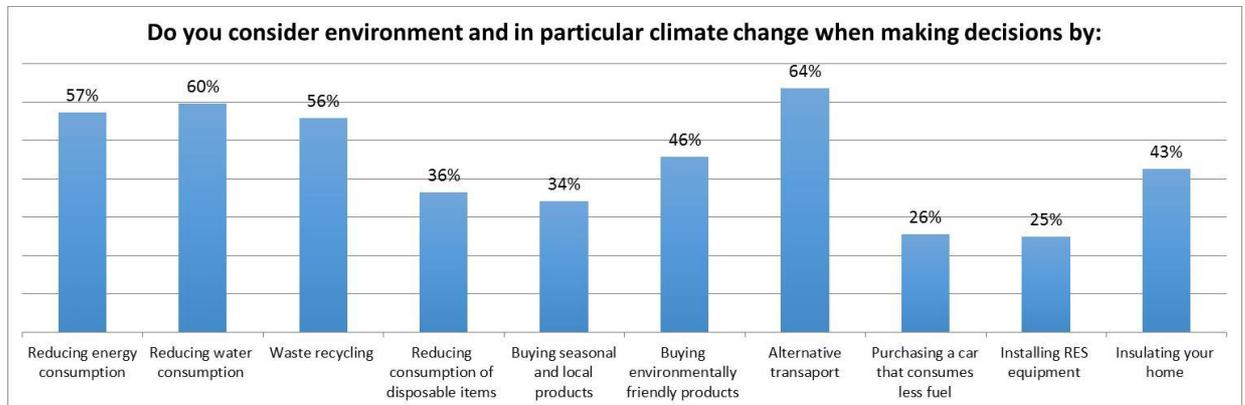


Fig. 31 Environmental and climate friendly activities practiced by the youngest participants

It is worrisome that more than 40% of participants from this group (54 of them) do not know what they could do to personally address climate change, and that more than 10 participants are not concerned about climate change (

Fig. 32).

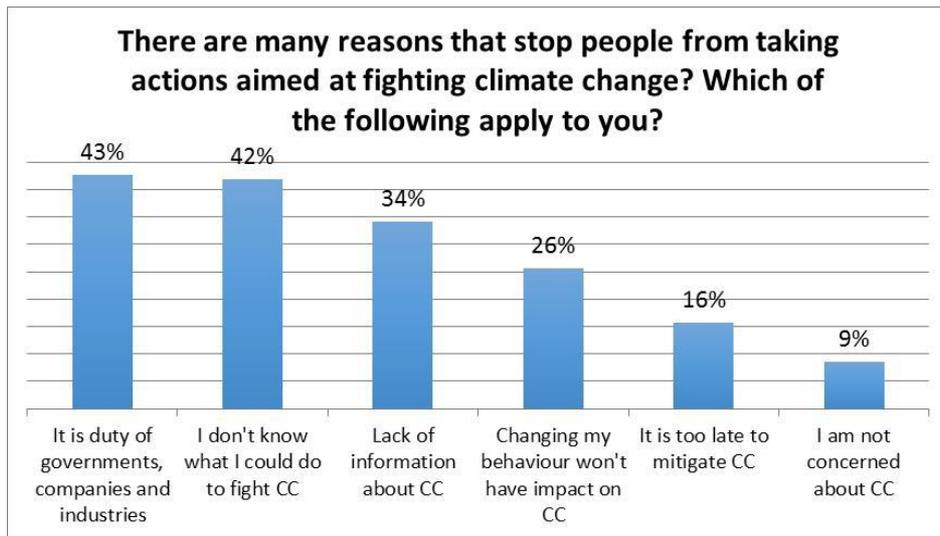


Fig. 32 Barriers to environmental and climate friendly behaviour within the youngest group

Still, the youngest participants consider themselves to be informed about the ways in which they may fight climate change, but most of them (109) are not familiar with the climate change adaptation options, or they are familiar just to some extent (Fig. 33). This group also considers to be relatively well informed about the climate change causes and consequences.

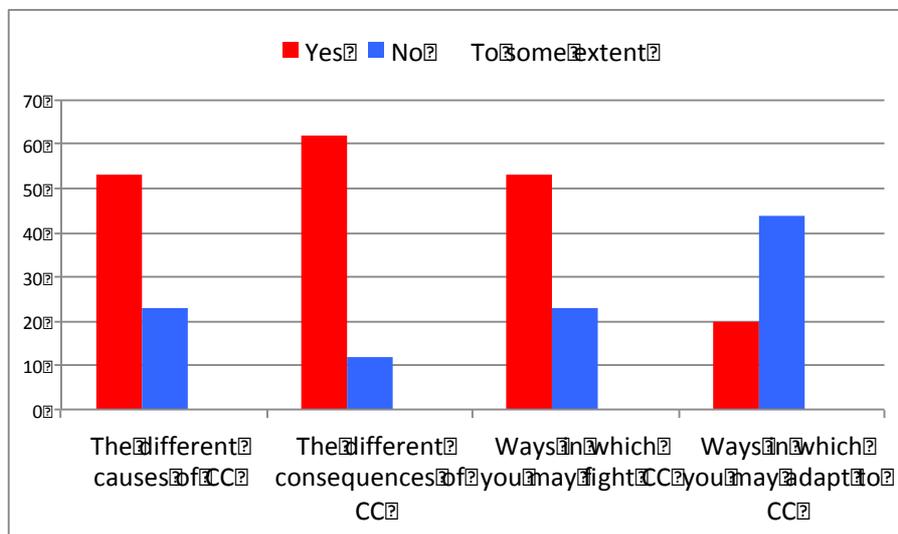


Fig. 33 Familiarity with the climate change topics within the youngest group

The participants obtain this information mainly through the Internet and TV, and as expected for this group, social media (Fig. 34).

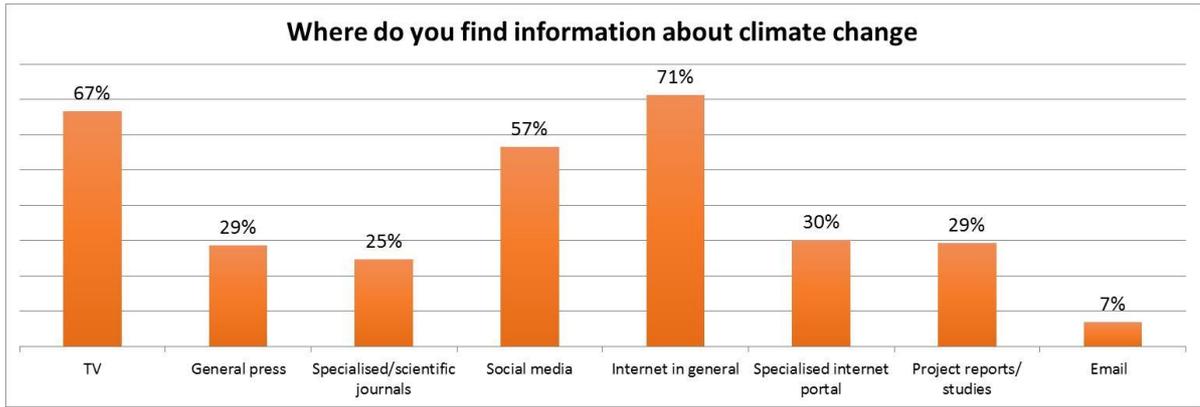


Fig. 34 information source

This group is the most aware of climate change campaigns organised by NGOs (Fig. 35).

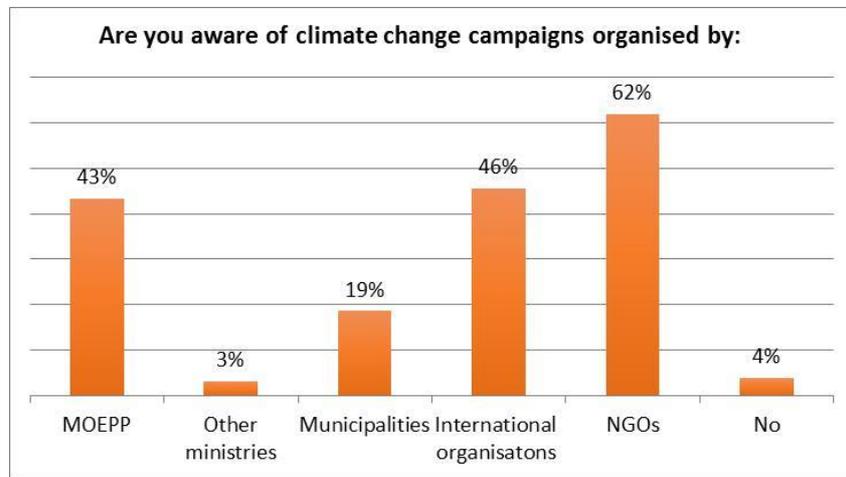


Fig. 35 Climate change campaigns visibility

3.3. Public administration

3.3.1. National and local level decision-makers

This group is composed of 79 participants that work in governmental institutions and local administration. The public administration group (PA) has 56% male and 44% female participants.

Climate change clearly stands out as the most serious threat for the society for the participants of this group (Fig. 36.)

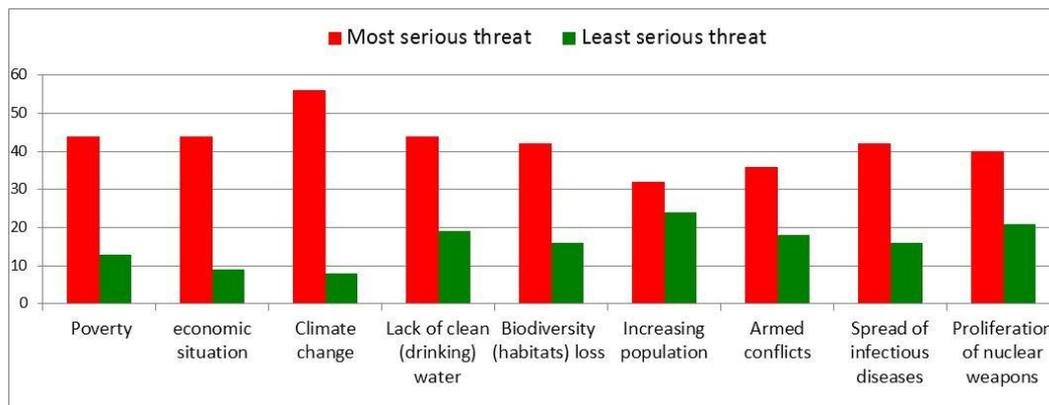


Fig. 36 Most and least serious threats to the society according to PA

Public administration considers that most of the climate change related work has been done, at least to some extent, by international organisations, such as UNDP and USAID, as well as by the EU (Fig. 37). They believe that the national Government has conducted the work only to some extent, and that the regional and local authorities have done even less. Finally, this group considers that neither corporations and industries, nor citizens do enough for climate change.

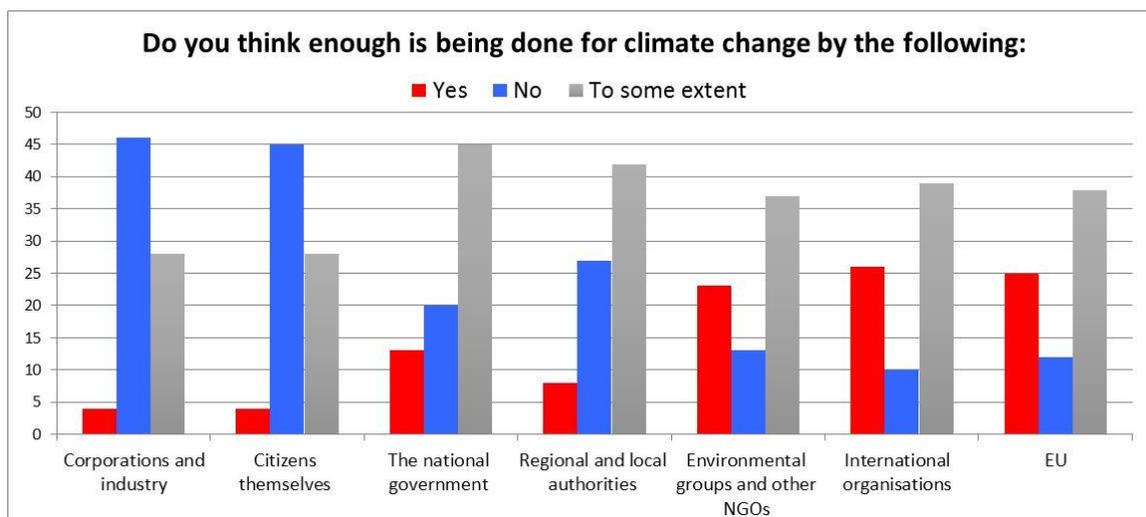


Fig. 37 Different actors' engagement with climate change according to PA

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 civic duty (Fig. 38). This is not surprising as managing climate change is the main or one of responsibilities for some of them (Fig. 44).

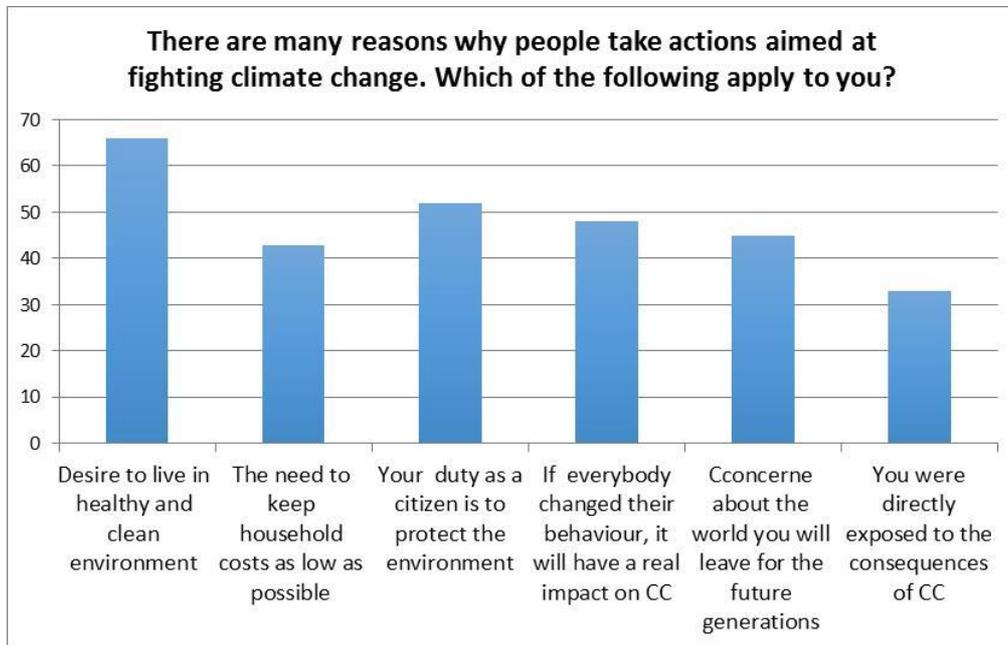


Fig. 38 Motivation for environment and climate conscious behaviour within PA

It is a concerning finding that even 18 participants from this group consider that it is too late to mitigate climate change (Fig. 39). This can be explained by the finding that a lot of participants (34) lack information on climate change, even though 84% of the group think that they are informed, at least to some extent, about ways in which they may address climate change (Fig. 40). Participants from this group are least informed about the adaptation options. This group uses traditional media, such as TV and general press, but also the Internet for searching for climate change related information (Fig. 41). Project reports and even social media are also frequently used by this group.

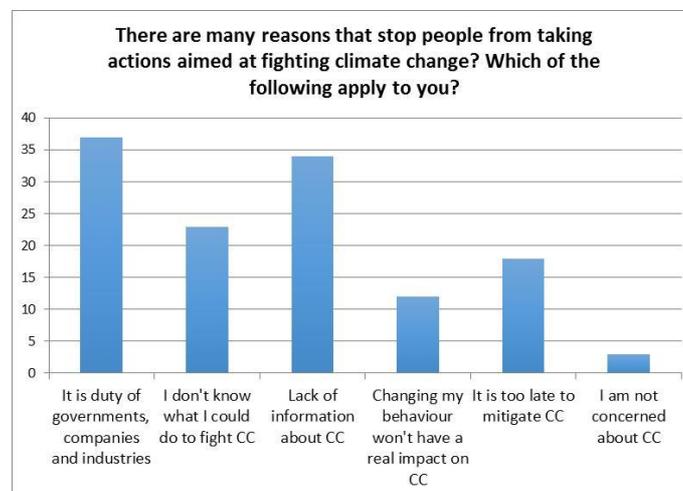


Fig. 39 Barriers to environmental and climate conscious behaviour

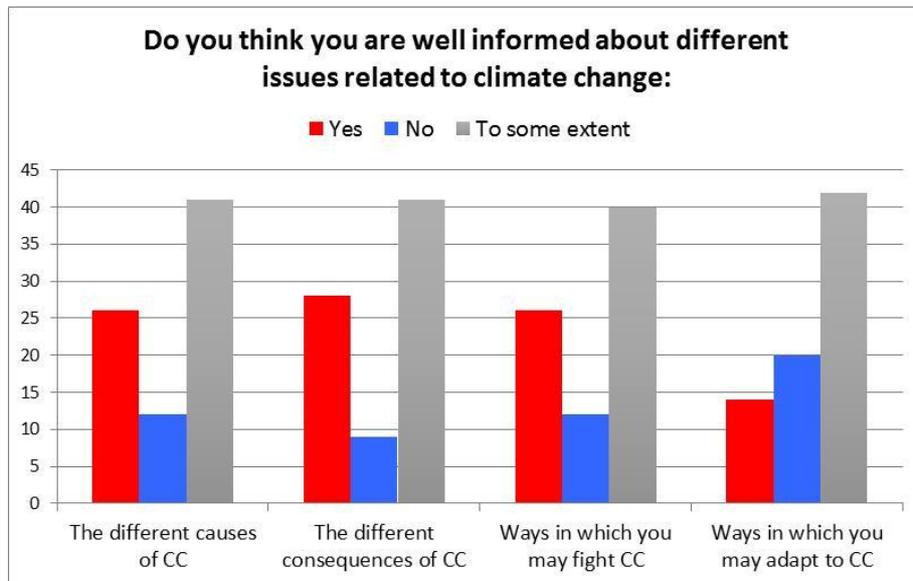


Fig. 40 Familiarity with different climate change topics

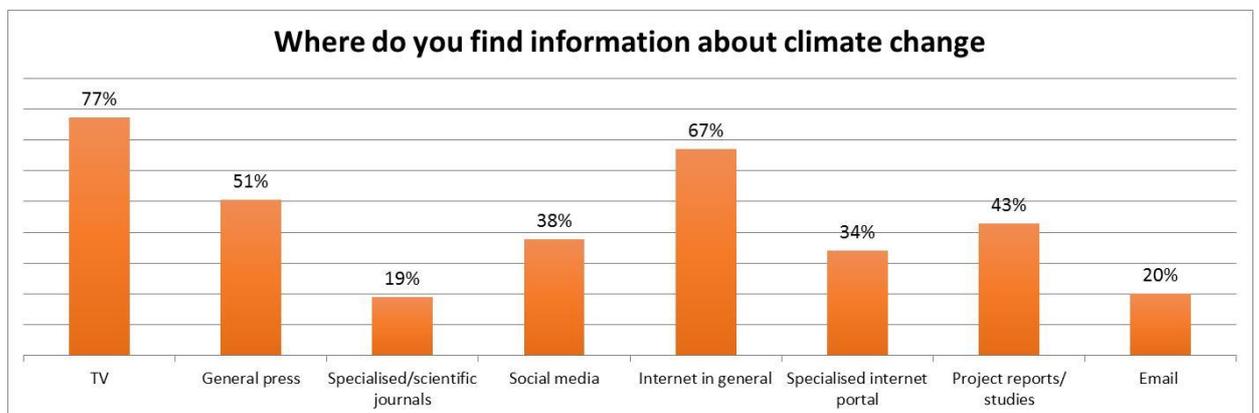


Fig. 41 Climate change information sources

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 (Fig. 42).

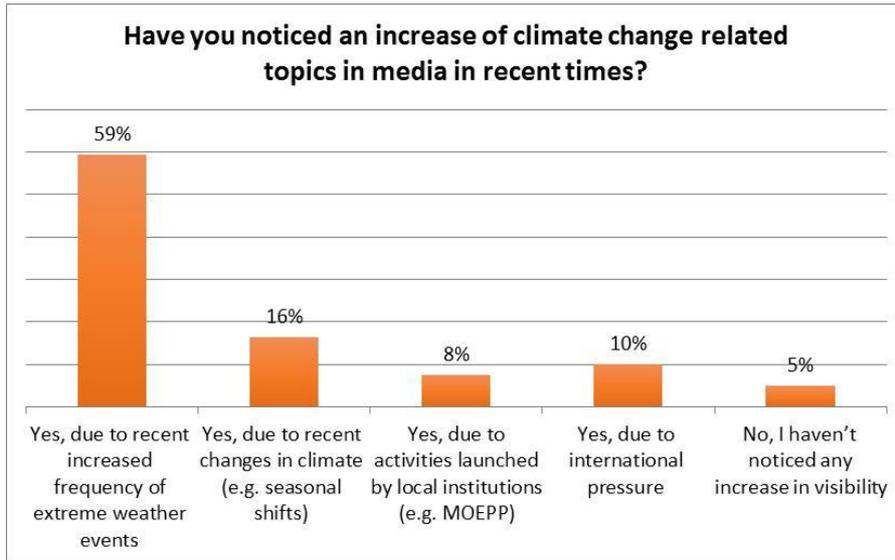


Fig. 42 Visibility of the climate change topic in media

This group recognises MOEPP and UNDP as the main frontrunners of the climate change related projects (Fig. 43).

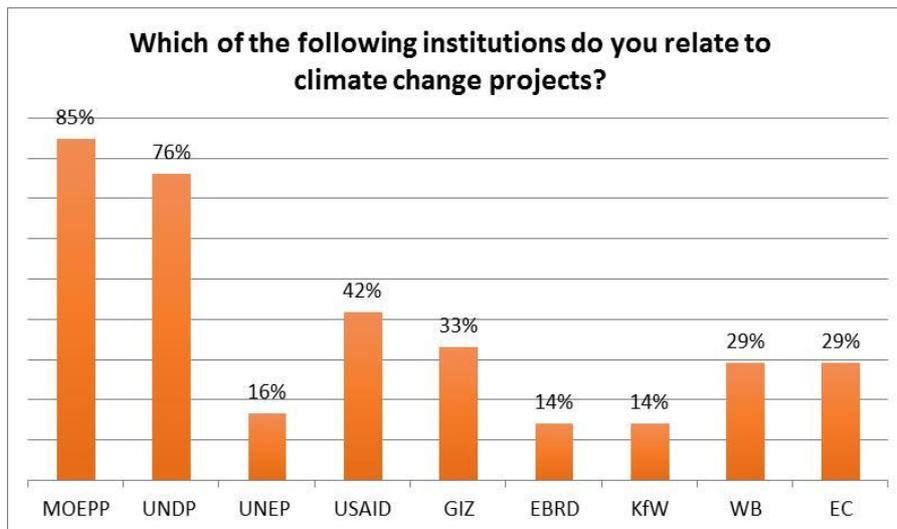


Fig. 43 Institutions that conduct climate change projects

3.3.2. National level decision-makers

The last section of the analysis zooms further into the sub-group of the public administration that is employed in the Governmental institutions on national level (NPA). This group had two additional questions determining specifically in which ministry or office the participants work (Table1), and to what extent climate change is a priority in their daily work.

This group is composed of 33 participants – 20 being ladies and presenting the majority of the group.

INSTITUTION	
MOEPP	18
Crisis management center	5
Ministry of Agriculture, Forestry and Water Economy	2
Protection and Rescue Directorate	1
Ministry of Economy	1
Ministry of Foreign Affairs	1
Ministry of Finance	1
Other	4

Table 1. Participants' institutions within the National Government

For most of the participants from this group, climate change is just one of many activities they deal with, while for 8 participants it is the main responsibility (Fig. 44.)

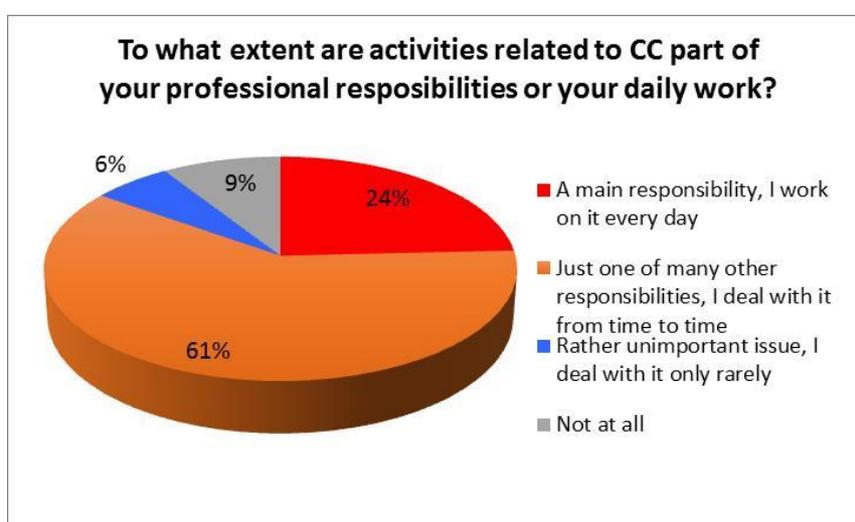


Fig. 44 Role of climate change in professional responsibility of NPA

National level public administration considers climate change to be the most serious threat for the society, followed by spread of infectious diseases (Fig. 45).

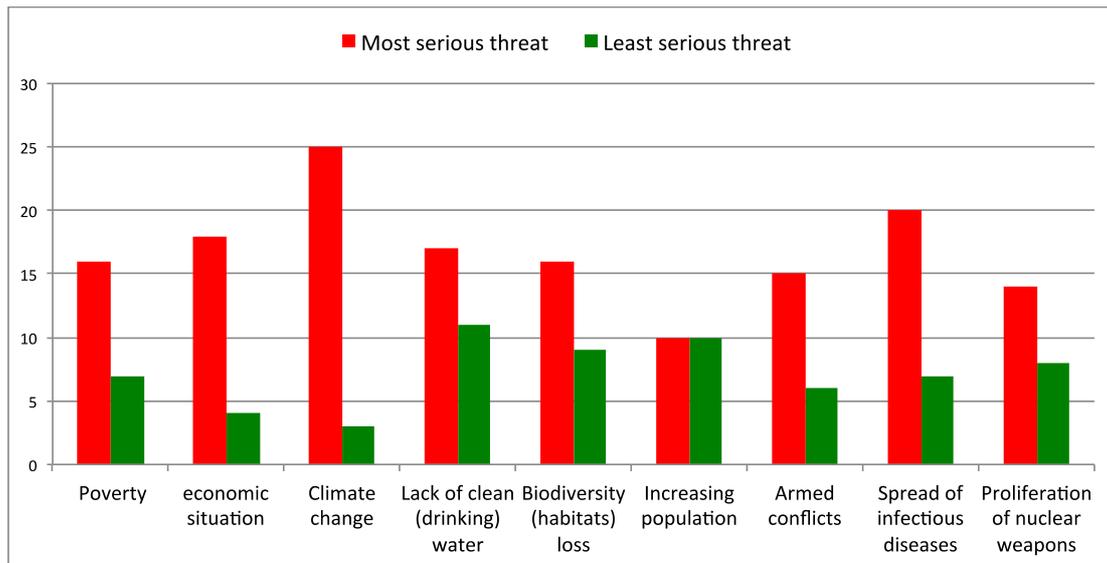


Fig. 45 Most serious threats to the society

This group considers the EU to be doing enough for addressing climate change, as well as international organisations and environmental groups. NPA also considers that the national government has tackled climate change, at least to some extent (Fig. 46). Scarce work has been done by regional and local authorities, and in particular, by citizens and corporations, according to this group.

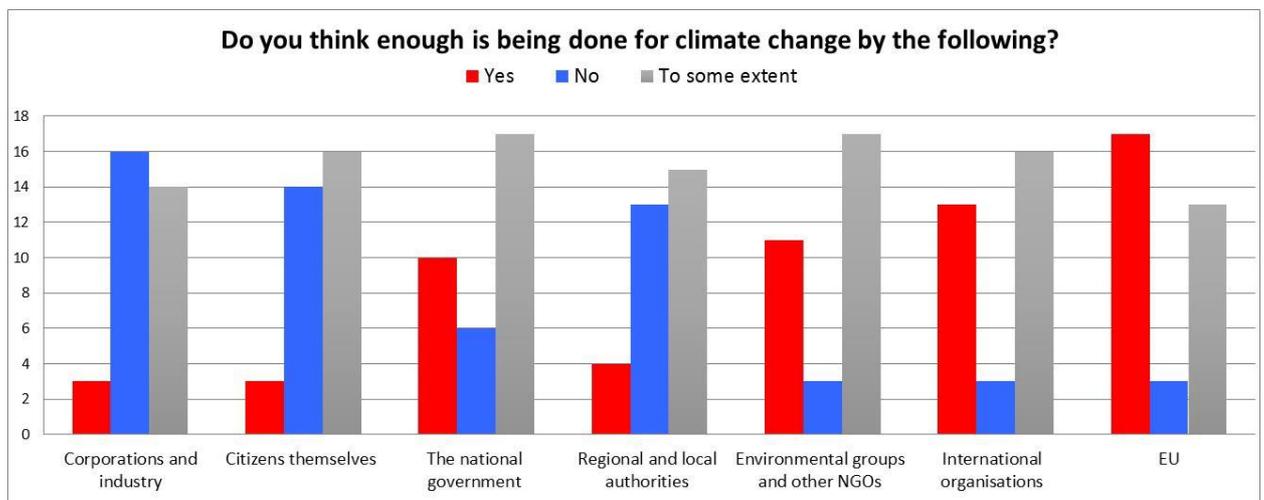


Fig. 46 Actors' engagement with climate change, according to NPA

Participants from governmental institutions affirmed to be well, or at least to some extent, informed about the climate change causes, consequences and ways to fight climate change. They are least informed about climate change adaptation (Fig. 47).

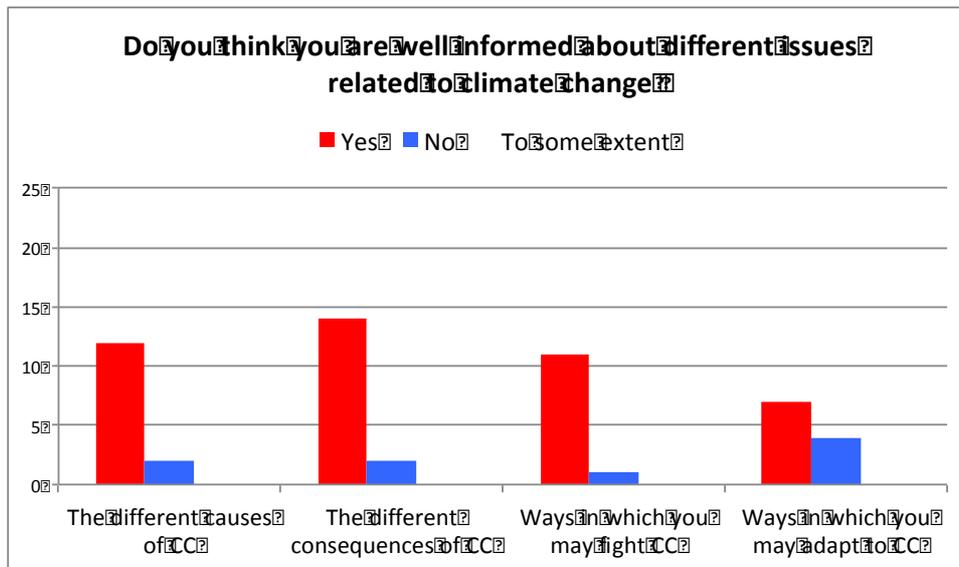


Fig. 47 Familiarity with climate change topics within NPA

The main information source for this group are TV and the Internet, including specialised portals such as www.unfccc.org.mk, www.klimatskipromeni.mk, as well as project reports and studies (Fig. 48).

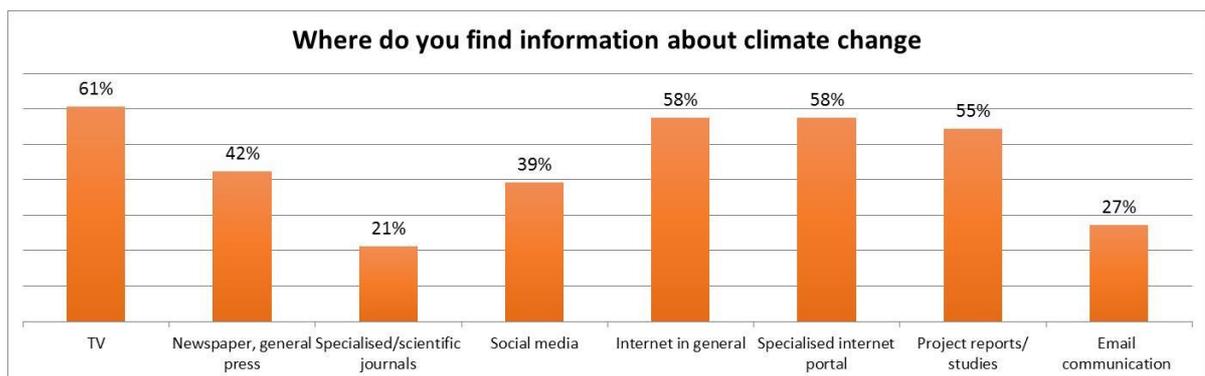


Fig. 48 Information source for NPA

4. MAIN FINDINGS AND RECOMMENDATIONS

Participants of this online questionnaire come from different parts of the Republic of Macedonia, cover all age groups, and have equal gender distribution. Almost 80% of the sample holds a university degree.

Climate change is perceived as the most serious threat to the society, in comparison to the third place it took in 2008 (EUROBAROMETAR). Still, majority of participants do not feel well informed about climate change (Fig. 49). Comparing to the results from EUROBAROMETAR, where 51% felt generally well-informed about the climate change causes, 55% about the consequences and 39% about the ways to fight climate change, the results from this survey show lower familiarity with these topics.

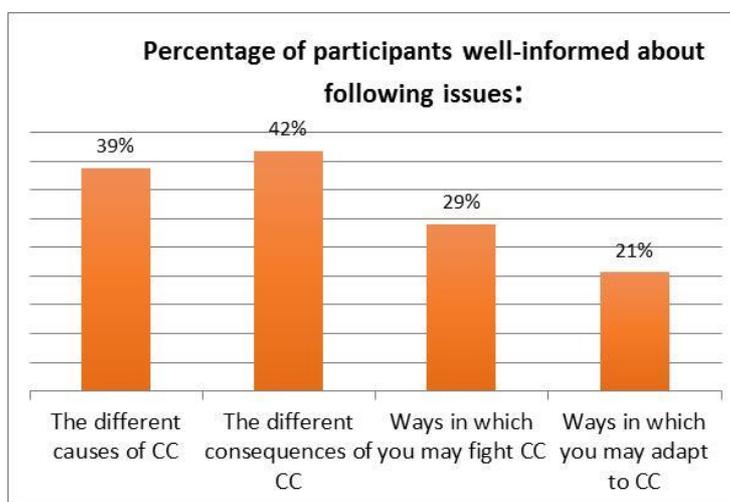


Fig. 49 Well-informed participants

The most visible environmental change in the past 10 years was in season shifts, but significant number of participants also has noticed changes in temperature, rain and flood frequency. Participants are aware of an increase of the frequency of extreme weather events, and more than a half of them relate the observed increase of the climate change topics in media to this phenomenon (Fig. 18).

Participants have a positive opinion of contributions done by the EU, international organisations and environmental NGOs towards addressing climate change. They think that it is being done insufficiently by corporations and industries, as well as by citizens, but according to them unsatisfactory efforts are demonstrated also by the public administration, particularly on the local and regional level (Fig. 50).

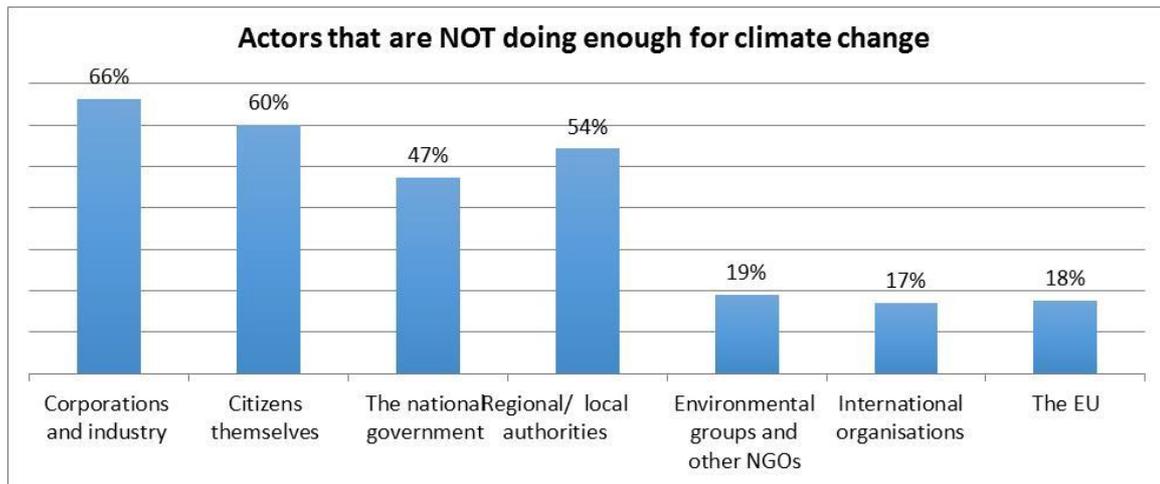


Fig. 50 Actors that are NOT doing enough for climate change

According to the results from 2008, and similarly as today, 69% believed that corporations and industry were not doing enough, 72% that citizens were not doing enough, 68% that the government was not doing enough, and 41% believed the EU was not doing enough. The current survey reveals to some extent more positive results, particularly regarding the engagement of the EU (Fig. 11).

Looking into activities that can mitigate climate change, the participants are most willing to reduce energy (72%) and water consumption (60%) and use alternative transport modes (59%) (Fig. 12). These results demonstrate stronger willingness to shift towards less carbon intensive living, comparing to 2008 when only 60%, 48% and 40% of participants respectively favoured the above mentioned activities.

The main motivation for this is a desire to live in a healthy and clean environment (Fig. 13). The second reason cited by 65% of the participants is that if 'everybody changed their behaviour, it would have a real impact'. Similarly, 63% of participants cited the same in 2008, but back then the prime reason was one's duty as a citizen.

Then again, 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 (Fig. 14). Similarly, 50% of respondents provided this reason in 2008. Although less than in 2008 when it was reported by 47% of participants, almost 35% still don't know how to address climate change as they have lack of information. This finding clearly demonstrates that more effort should be invested in information dissemination and sharing best practice examples. Albeit, more than 80% of participants think they are informed to some extent about the ways to fight 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. Finding that the citizens are already aware of long-term changes suggests that the awareness-raising stage may not be a necessary first step before communicating and discussing possible solutions to the problems associated with climate change. Furthermore, participants are least informed about climate change adaptation, as confirmed even by the public administration at national level (Fig. 47). Adaptation to climate change is becoming a priority among

environmental issues in Europe, as witnessed by recent initiatives and documents of the European Environmental Agency (e.g the EU Strategy on Climate Change Adaptation (EC, 2013)). Initiatives in Macedonia should follow this trend by putting more effort in promoting and conducting adaptation measures.

85% of participants are willing to pay higher price for energy produced from low-carbon or renewable resources, mainly if the price is reasonable and the source guaranteed (Fig. 15). The same applied to only 45% in 2008, according to EUROBAROMETAR.

70% of participants find information about climate change on the Internet and 42% through social media (Fig. 17). This is important result that can inform future climate change knowledge dissemination. However, conventional media, particularly TV, are still popular among Macedonian citizens. 61% of participants obtained information through this source, and 36% read climate change related information in newspapers. Consulting project reports, specialised Internet portals and email communication is to some extent more practiced by the public administration group (Fig. 41). Still, the majority of participants from the public administration (77%) learn about climate change on TV.

Participants are familiar with climate change campaigns organised by international organisations and environmental NGOs and more than a half of participants is also aware of the campaigns organised by MOEPP (Fig. 19). The National Tree Day was most widely recognised as successful climate change campaign. When it comes to climate change projects, 70% of participants recognised MOEPP as a leading institution. UNDP is on the second place, recognised by 56% of the participants (Fig. 20).

Besides providing more specific answers to the questions in the comment fields, 68 participants also left comments at the end of the questionnaire, and even 178 participants left their email address for further communication. These comments provided useful insights into their perceptions of different aspects of climate change, its media coverage, success of various campaigns, as well as usefulness and clarity of this research.

Then again, participation is a voluntary activity, and people are generally inundated with information from diverse sources, including the Internet – thus, high number of comments 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 and continue with participatory activities in the area of climate change information sharing and decision-making.

List of Acronyms

CC - Climate Change

EC - European Commission

EU - European Union

EBRD - European Bank for Reconstruction and Development

GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit

GMO - Genetically Modified Organisms

ICT - Information and Communication Technologies

KfW - Kreditanstalt für Wiederaufbau

MKC - Citizens of Macedonia

MOEPP - Ministry of Environment and Physical Planning

NGO - Nongovernmental Organization

NPA - Governmental institutions on national level

PA - Public Administration

REC - Regional Environmental Centre

SKC - Citizens of Skopje

TV - Television

UNDP -United Nation Development Programme

UNEP -United Nations Environment Programme

USAID - United States Agency for International Development

WB - World Bank

WHO - World Health Organization

WWF - World Wildlife Fund

List of Figures

Fig. 1 Facebook advertisement	9
Fig. 2 Age distribution.....	10
Fig. 3 Gender distribution	10
Fig. 4 Education	11
Fig. 5 Participants' municipalities.....	11
Fig. 6 Employment rate (left) and sector (right)	12
Fig. 7 Ranking of the possible threats to the society.....	12
Fig. 8 Most and least serious threats to the society.....	13
Fig. 9 Environmental (climate) aspects in which participants noticed changes in past 10 years	13
Fig. 10 Participants' interest in climate change related activities in the country and the world.....	14
Fig. 11 Participants' opinion over different actors' engagement with climate change	14
Fig. 12 Environmental and climate friendly activities practiced by participants.....	15
Fig. 13 Reasons that trigger environmental and climate friendly behaviour	15
Fig. 14 Barriers to environmental and climate friendly behaviour	16
Fig. 15 Payment for alternative energy resources.....	16
Fig. 16 Familiarity with different climate change related issues.....	17
Fig. 17 Climate change information source	17
Fig. 18 Perception of increased visibility of the climate change topic in media.....	18
Fig. 19 Awareness of climate change campaigns.....	18
Fig. 20 Institutions related to climate change projects.....	19
Fig. 21 Word cloud presenting frequency of the words used in the comments to the questionnaire (source: Wordl.net)	20
Fig. 22 Most and least serious threats to the society, according to SKC (upper graph) and MKC (lower graph).....	21
Fig. 23 Environmental and climate friendly activities practiced by SKC (orange) and MKC (blue)	22
Fig. 24 Answer to higher payment for alternative energy resources by SKC (left) and MKC (right).....	22
Fig. 25 Barriers to environmental and climate friendly behaviour, as stated by SKC (orange) and MKC (blue)	23
Fig. 26 Familiarity with different climate change related issues, by numbers of participants from Skopje (left) and the rest of Macedonia (right)	23
Fig. 27 Climate change information source for SKC (orange) and MKC group (blue)	23
Fig. 28 Awareness of climate change campaigns, perceived by SKC (orange) and MKC (blue).....	24
Fig. 29 The most and the least serious threats to the society according to the youngest group	24

Fig. 30 Participants' interest in climate change related activities.....	25
Fig. 31 Environmental and climate friendly activities practiced by the youngest participants.....	25
Fig. 32 Barriers to environmental and climate friendly behaviour within the youngest group.....	26
Fig. 33 Familiarity with the climate change topics within the youngest group.....	26
Fig. 34 information source.....	27
Fig. 35 Climate change campaigns visibility.....	27
Fig. 36 Most and least serious threats to the society according to PA.....	28
Fig. 37 Different actors' engagement with climate change according to PA.....	28
Fig. 38 Motivation for environment and climate conscious behaviour within PA.....	29
Fig. 39 Barriers to environmental and climate conscious behaviour.....	29
Fig. 40 Familiarity with different climate change topics.....	30
Fig. 41 Climate change information sources.....	30
Fig. 42 Visibility of the climate change topic in media.....	31
Fig. 43 Institutions that conduct climate change projects.....	31
Fig. 44 Role of climate change in professional responsibility of NPA.....	32
Fig. 45 Most serious threats to the society.....	33
Fig. 46 Actors' engagement with climate change, according to NPA.....	33
Fig. 47 Familiarity with climate change topics within NPA.....	34
Fig. 48 Information source for NPA.....	34
Fig. 49 Well-informed participants.....	35
Fig. 50 Actors that are NOT doing enough for climate change.....	36
 Table 1. Participants' institutions within the National Government.....	 28

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