



EXPLORING CLIMATE CHANGE CHALLENGES AND OPPORTUNITIES IN TRANSITIONING TO A CARBON NEUTRAL ECONOMY IN KOSOVO

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Executive Summary

UNDP Kosovo commissioned this research, including a Public Pulse survey, to explore people's perceptions about the climate change challenges that Kosovo faces, and about possibilities and initiatives for transitioning to a carbon neutral economy. The topic is approached from the perspectives of Kosovo's central institutions, businesses, civil society organizations and general public. The study also provides details on people's knowledge and attitudes towards climate change and decarbonization. The analysis can be used as an input by Kosovo institutions in drafting environmental and climate policies and in addressing challenges related to climate change.

The research firstly assesses knowledge of climate change and perceptions of how to mitigate its impact. It then focuses on particular policy and mitigation measures. Conducted in April-May 2022, the study combined a survey of 1,300 respondents with focus group discussions including representatives of central public institutions, civil society organizations and businesses.

The findings show that the public is generally familiar with the concept of climate change, but there is confusion about its impact and how it affects Kosovo. Almost 70% of young people (18 – 24) declared little knowledge about the impacts of climate change on their health. TV is a more significant source of information, especially for Kosovo Serb participants (78%) followed by 75% of participants from other ethnicities and 64% of Albanians; social media is the second most common source for younger adults of all ethnicities (42%), but the least common for the elderly (0%).

Although the public is familiar with the term 'climate change', their responses to possible climate change mitigation measures indicate that they are not aware of what it means in practice. Renewable energy was ranked as the second best solution to mitigate climate change, suggesting that the public is aware that fossil fuel combustion is a key cause of climate change. Only a minority (31%) of all respondents was willing to pay higher electricity tariffs for the sake of minimizing the impacts of climate change for future generations, whereas 65% of respondents said they would not pay higher electricity tariffs. Meanwhile, the majority of participants selected "waste management", "litter", "solid waste management" and "plastic pollution" as the environmental issues that concern them the most. Accordingly, "better waste management" was ranked highest as a mitigation measure, despite its limited real impact on reducing greenhouse gas emissions. As well as lack of awareness, this suggests that the public is concerned with environmental issues that are more apparent in their everyday lives.

Participants in the focus group discussions seem to have similar perceptions and beliefs about the climate change and carbon footprint in Kosovo. Their perceptions differed only in terms of ranking the top pollutants and solutions. All have heard about climate change and are aware of its adverse impacts, and of the challenges to Kosovo in moving towards a greener future with fewer climate change effects.

Focus group discussions with businesses, public institutions, and civil society organizations reveal the following attitudes.

» **Businesses**

» **Self-declared green businesses from diverse sectors**

- Not much has been done in terms of decarbonization, river clean-up and access to safe drinking water.
- It is important to organize study visits and exchange knowledge and skills with other businesses in Europe.
- Each municipality needs an energy expert to better address challenges and provide solutions. A needs assessment should be conducted to identify municipal needs: this could prompt the installation of photovoltaic panels or even heat pumps, if feasible.
- Kosovo should implement the Green Agenda for the Western Balkans as well as the related applicable laws.
- There is a need to better understand hydro and wind resources before committing to transitioning away from coal.

» **Manufacturing businesses**

- Coal-burning and construction companies are the biggest polluters in Kosovo.

» **Other businesses**

- Some manufacturing companies do not have air filtration mechanisms, and neither central institutions nor businesses themselves are aware of their greenhouse gas (GHG) emissions and air pollution, which undeniably harm the environment.
- Climate change has resulted in an increase in various diseases, while in cities where there is heavy air pollution many children have respiratory problems. Most of Kosovo's untreated medical waste is thrown away casually, damaging the environment; such issues are not legally regulated.
- In the absence of appropriate landfill or other solutions, waste from the slaughter of domestic livestock has a significant negative impact on the environment and emits GHG.
- Frequent variations of temperature, disruption of regular rainfall patterns and land use change – for example from agriculture to construction – are additional challenges.
- Electricity generation is the biggest polluter. Deforestation is also a serious issue.

» **Public institutions**

» **Local Institutions**

- Power plants, construction projects, industrial waste (from Mitrovicë/Mitrovica, Obiliq/Obilić, Hani i Elezit/Elez Han and Drenas/Glogovac) and poor management of forests are the biggest issues.
- Lack of proper public transportation results in air pollution.
- There has been adequate progress in waste management. But improvement is necessary in waste-water treatment at national and local level. Poor waste-water treatment pollutes rivers and agricultural lands.

» **Central Institutions**

- GHG emissions are among the key environmental pollutants. Kosovo needs to focus on decarbonization of the energy sector. More precisely, the focus should be on how to get rid of fossil fuels and start using alternatives such as renewable energy resources.
- Due to the socio-economic impacts of COVID-19, climate change has not been treated as an urgent issue.
- Sewage, use of polluting construction materials (including silcapor and aluminum powder), poor management of landfills, domestic livestock and hospital waste are other key pollutants.
- The manufacturing industry is another key polluter through excessive waste generation, leaks, and pasture overuse by the agricultural industry.
- Public awareness of climate change is very low and more needs to be done in educating young people.
- The budget is not properly aligned with policy documents and political objectives, which is sometimes why objectives are not met.
- Central institutions seek more staff for this sector.

» **NGOs**

- Power plants and quarries are among the worst polluters.
- Car emissions are also a significant pollutant.
- Kosovo's slow progress in respecting international agreements is a concern.
- Lignite can be used as organic fertilizer and this could be explored further.

A public survey revealed the following knowledge and attitudes about climate change and decarbonization:

- A total of 63% of participants said that they had heard of climate change while 36% said that they had not. Young people (18-24) are more aware (70%) about climate change than other age groups. Television (65%) appears to be the top source of information overall for all participants, followed by social media (27%).
- More than half of respondents (52%) perceive the issue of climate change as important, and 27% perceive it as very important. 53% of Kosovo Albanians consider the issue of climate change as an important matter compared to 26% of Kosovo Serb participants and 46% of participants from other ethnicities.
- 41% of respondents claim to know a little about the potential environmental threats to their own and their family's health. Kosovo Albanians appear more aware of the impacts of climate change on their health, compared to Kosovo Serbs and other ethnicities.
- Respondents in the 45-54 age group appear to have more knowledge of the right to live in a healthy and clean environment than other age groups.
- People's awareness of whether Kosovo is affected by climate change is high, with 64% stating that Kosovo is to some extent impacted by the effects of climate change and 18% saying that Kosovo is affected a lot by climate change.

- All ethnicities seem to have similar perceptions of the impact of climate change in Kosovo: 64% of Kosovo Albanians, 49% of Kosovo Serbs and 53% from other ethnicities believe that Kosovo is somewhat impacted by climate change.
- Data show that participants do not discuss climate change much with family and friends.
- Almost 70% of respondents believe that the weather pattern is changing, while 27% believe that it is not changing and the rest do not know. 72% of surveyed Albanians feel that the weather pattern is changing, compared to 30% of Serbs and 56% of participants from other ethnicities.
- Air pollution is considered as the most pressing environmental issue (26%), followed by pollution of groundwater, drinking water and rivers (18%), garbage (11%), poor waste management (8%), use of old vehicles as means of transport (6%), power plants (4%), sewage (4%), solid waste management (3%), floods (3%) and plastic use (3%).
- For Kosovo Albanians (26%) and respondents of other ethnicities (28%), air pollution remains the top concern, while only 17% of Serb participants listed air pollution as the top environmental concern for them. Pollution of water, drinking water and rivers is listed as a top concern for Kosovo Serb participants (30%), compared to 17% of Kosovo Albanians and 16% of respondents from other ethnicities.
- Most respondents (70%) would support the use of public funding to assess the impacts of climate change on Kosovo.
- A clear majority (77%) said they would support fines for littering/ dumping waste and plastic bags.
- 31% of respondents stated that they would be willing to pay more for electricity for the sake of minimizing the impacts of climate change on future generations.

Introduction

Globally, climate change is the biggest development challenge that humankind is facing today. It is imperative for the general public to understand how climate change affects them and what their institutions are doing to mitigate it. Kosovo faces the same climate questions and challenges as anywhere else. This report accordingly provides a Kosovo-specific study on beliefs, perceptions and attitudes about climate change. It explores whether appropriate actions are being taken to combat climate change and identify critical areas for intervention. This survey also examines concerns and perceptions about the effects of climate change on health and other risks arising.

Kosovo relies on two aging coal power plants which release significant amounts of carbon dioxide and smaller amounts of methane and nitrous oxide. More than 95% of domestic electricity production comes from these coal power plants. As well as not consistently meeting domestic demand, they are unreliable and contribute significantly to air pollution. Meanwhile, transportation accounts for the second highest share of greenhouse gas (GHG) emissions. The high number of outdated cars and lack of reliable public transportation

contributes to both significant air pollution from particulate matter and climate change through carbon dioxide emissions. Although there is a lack of reliable data, the sector with the second highest contribution to GHG emissions in Kosovo is agriculture, forestry and land use change. That is followed by the waste sector and emissions from industry and manufacturing. Only forest land is a net absorber of GHG emissions, but land use change and deforestation is inhibiting this positive effect.

This report presents an overview of the perceptions of climate change and its challenges in Kosovo, from the perspectives of the public, central and local institutions and the business community. It further provides data on perceptions about the impacts of climate change on health and about possible solutions. The report also measures stakeholders' awareness and knowledge about climate change initiatives at the local, national and global level. The report seeks to explore options to mitigate the adverse impacts of climate change, assisting the identification of gaps and areas for policy or technical interventions by providing recommendations from focus group discussions.

The findings are divided into three subsections: knowledge and awareness of climate change and decarbonization; opinions in mitigating climate change effects; and opinions on the use of central funding to mitigate climate change and accelerate decarbonization. To provide further details, qualitative research elements have been incorporated based on focus group discussions. Focus group findings are broken down according to stakeholders, including central institutions, local institutions, various sectors of the business community and civil society. This report serves as a building block for planning future interventions to tackle climate change in Kosovo.

Literature review

Climate change refers to long-term shifts in temperature and weather patterns.¹ Besides causing disruption to animal life, climate change translates into disruptions in human health. The burning of fossil fuels is the main driver of climate change. Switching energy production to renewables such as solar or wind will reduce the emissions driving climate change.²

Decarbonization means conversion to an economic system that sustainably reduces and compensates for emissions of carbon dioxide (CO₂). The current goal of decarbonization is to eliminate all carbon dioxide emissions.³ To achieve this global strategy and the associated binding targets, every country is obliged to do its part and thereby reduce the effects of climate change. However, only with concerted long-term international effort can we successfully address the causes and consequences of climate change.

¹United Nations Framework Convention on Climate Change, ARTICLE 1 DEFINITIONS

²United Nations, Climate Action, retrieved from: <https://www.un.org/en/climatechange/what-is-climate-change>

³ Ibid.

In 2015, world leaders and signatories to the United Nations Framework Convention on Climate Change (UNFCCC)⁴ gathered in Paris to sign the historic Paris Agreement, committing to keeping global warming below 2.0°C and to pursuing efforts to further limit the temperature increase to 1.5°C. The agreement serves as a roadmap for change, emphasizing the importance and role of governments, cities, corporations and investors in participating in this revolutionary change.⁵ However, research suggests that although reducing to 2.0°C would be a remarkable achievement, there is only a 50% chance of doing so. There is a 50% chance of exceeding the forecast temperature if the indicated emissions strategy is followed.⁶ 2020 was the hottest year on record.⁷

By transitioning to a clean, circular economy, slowing climate change, reversing biodiversity loss, and decreasing pollution, the European Green Deal⁸ aims to achieve carbon neutrality by 2050 and boost resource efficiency.⁹ Meanwhile, the United Nations Framework Convention on Climate Change (UNFCCC) stands at the heart of global efforts, providing a framework for governments to collaborate in the fight against climate change, based on the principle of "common but differentiated responsibilities and respective capabilities, in light of different national circumstances."¹⁰ Under the umbrella of UNFCCC, worldwide negotiations have taken place since the 1990s with the intention of enhancing international action on climate change.¹¹

The fifth report of the Intergovernmental Panel on Climate Change (IPCC) concluded that the Western Balkans will experience a drastic impact in changes of climate variables: the currently observed temperature increase of 1.2°C will become 1.7 - 4.0°C depending on the global GHG emission pathways. Kosovo will also experience increased temperatures, changes in precipitation patterns and changes in related climate variables, leading to increased intensity and frequency of forest fires, droughts, soil erosion and flooding. At the same time, the Western Balkans could play a crucial part in lowering GHG emissions from anthropogenic activities that remain the core factor for climate change. Even though the region's overall emissions per capita are lower compared to Western Europe, the region's dependency on fossil fuel combustion for the energy sector remains a challenge for the path to decarbonization. The region has the potential for climate mitigation if it undergoes a clean energy transition. The total emissions of GHG in Kosovo reached 9.5 Mt CO₂ equivalent in 2008 only to experience another 5.2% increase by 2015 when emissions were 10 Mt CO₂

⁴ Joachim, H., Cramer., Wolfgang, et al, United Nations Framework Convention on Climate Change (UNFCCC), International Symposium on Stabilization of Greenhouse Gas Concentrations, Avoiding Dangerous Climate Change, 2005

⁵ UNFCLIMATE CHANGE, Paris Agreement, 2015, retrieved from https://unfccc.int/sites/default/files/english_paris_agreement.pdf

⁶ Climate Analytics, Climate Action Tracker, Warming Projections Global Update, May 2021

⁷ United Nations Sustainable Development Goals, UN, retrieved from <https://www.un.org/sustainabledevelopment/climate-change/>

⁸ European Union, European Green Deal, December 2019, retrieved from https://ec.europa.eu/clima/eu-action/european-green-deal_en

⁹ Switch to Green, The EU Green Deal – a roadmap to sustainable economies, retrieved from <https://www.switchtogreen.eu/the-eu-green-deal-promoting-a-green-notable-circular-economy/>

¹⁰ Strategy Group, Singapore and International Efforts, retrieved from <https://www.nclimatechanges.gov.sg/singapores-climate-action/singapore-and-international-efforts/>

¹¹ Ibid.

equivalent. Countries in the Western Balkans are already facing difficulties, including increased summer energy consumption, scarcity of drinking water especially during the summer, droughts and heat waves. Kosovo and other regional countries are reported to be home to some of Europe's most polluting power plants, and its transportation and energy infrastructure are in desperate need of modernization. As a result of their excessive reliance on fossil fuels in the energy grid, inefficient transportation systems, and outdated car fleets, countries such as Kosovo suffer from severe urban air pollution and traffic congestion.¹²

With this trend of increases in GHG emissions and climate vulnerability, Kosovo finds itself in a position that requires climate action to be at the forefront of national policy. While Kosovo is not party to the Paris agreement nor a signatory of UNFCCC, it is fully committed to the Green Agenda for the Western Balkans (GAWB). The main goal of the GAWB is to achieve carbon neutrality by 2050 and to align with the European Green Deal's key elements. As a signatory to the Sofia Declaration, Kosovo is fully committed to the achievement of these objectives. Kosovo currently lacks the legal infrastructure, and thus there is no legal basis for a National Energy and Climate Plan (NECP) as required by the Energy Community. But the first Climate Change Law is due to be approved by the end of 2022; this will prepare the ground for secondary legislation to regulate processes such as carbon trading and also open the door to coherently build the technical infrastructure that will inform climate related policies.

Thus far, the Climate Change Strategy 2018 - 2028 is the only policy document that gives orientation to Kosovo's climate change agenda, but its focus is envisioned to change after the approval of the new Law on Climate Change.¹³ As it stands, the strategy addresses Kosovo's capacity to meet future obligations to UNFCCC and EU, and the reduction of GHG through sustainable use of natural resources, energy efficiency, and renewable energy. In terms of adaptation, it focuses on 1) improving and developing new disaster risk reduction mechanisms, 2) strengthening the capacity of vulnerable communities, and 3) increasing the capacity of stakeholders to integrate climate change adaptation into local and national development processes.

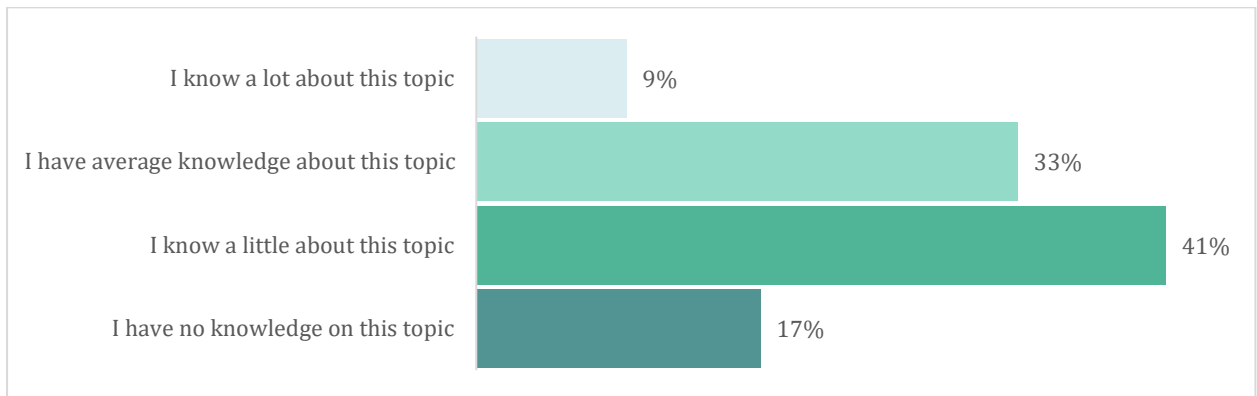
People's knowledge of climate change and decarbonization

The impact of climate change on extreme weather events and on people's health and wellbeing has long been recognized. Accordingly, respondents were first asked to evaluate their knowledge and awareness of potential environmental threats to health. Most respondents (41%) stated that they know a little about this topic, 33% said that they have average knowledge, while a mere 9% of respondents claimed to know a lot about this issue. 17% said that they have no knowledge.

¹² The World Bank, Kosovo - A future of Green Transport and Clean Air, 2019

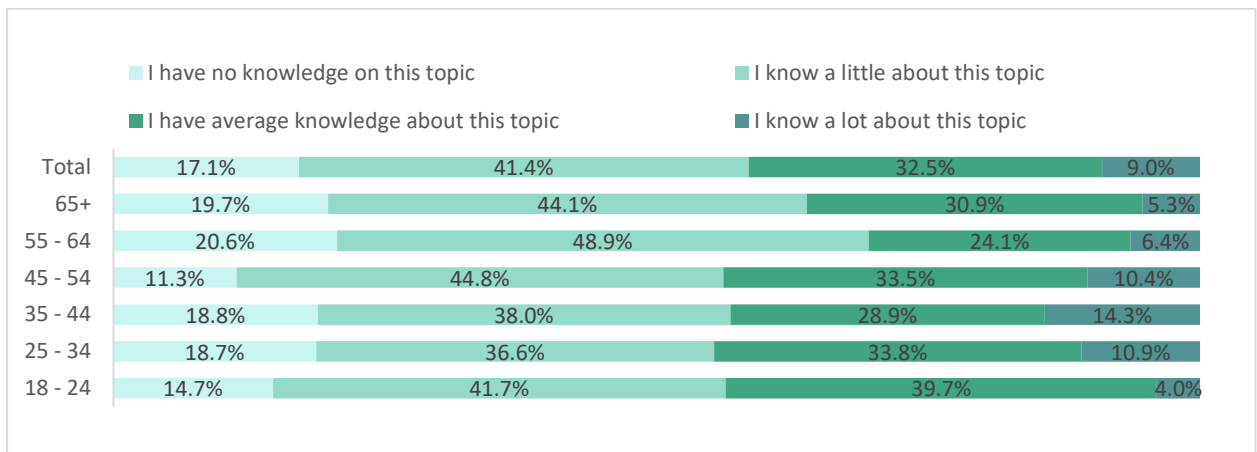
¹³ Ibid.

Figure 1 To what extent are you aware of potential environmental threats to your health/your family's health?



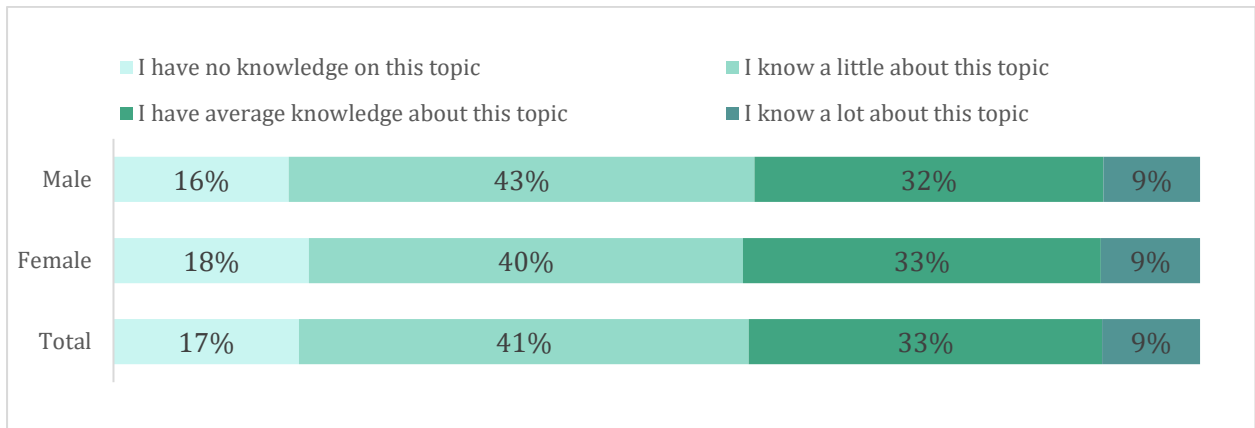
The data show that age is not a factor in determining knowledge and awareness of potential environmental threats to health. All age groups seem to have similar levels of information on this topic.

Figure 2 To what extent are you aware of potential environmental threats to your health/your family's health? - by age



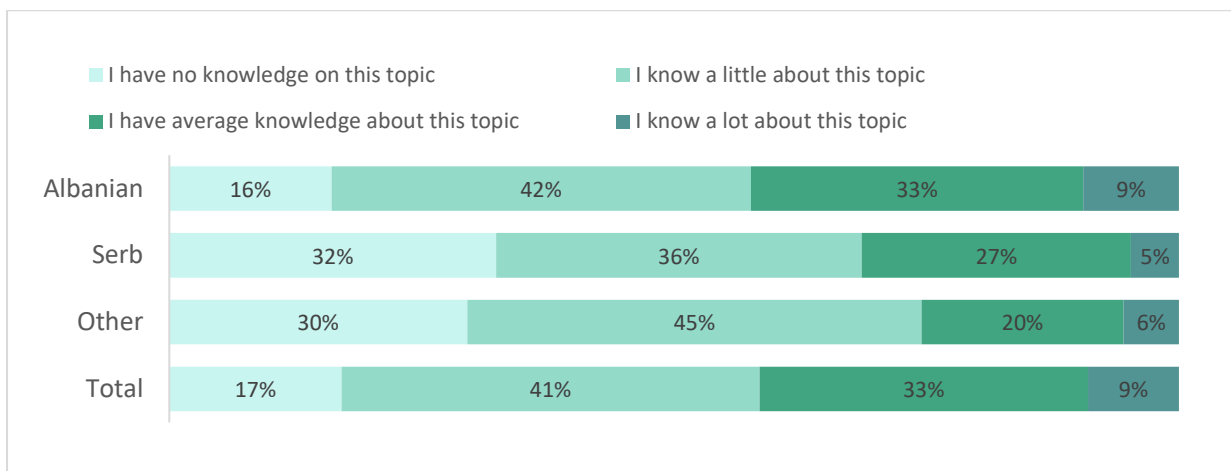
Further data disaggregation shows that gender likewise makes little difference to awareness of potential environmental threats: 16% of men and 18% of women declared no knowledge, 43% of men and 40% of women said that they knew a little, 32% of men and 33% of women claimed average knowledge, and the same percentage of men and women (9%) claimed to know a lot about this topic.

Figure 3 To what extent are you aware of potential environmental threats to your health/your family's health? - by gender



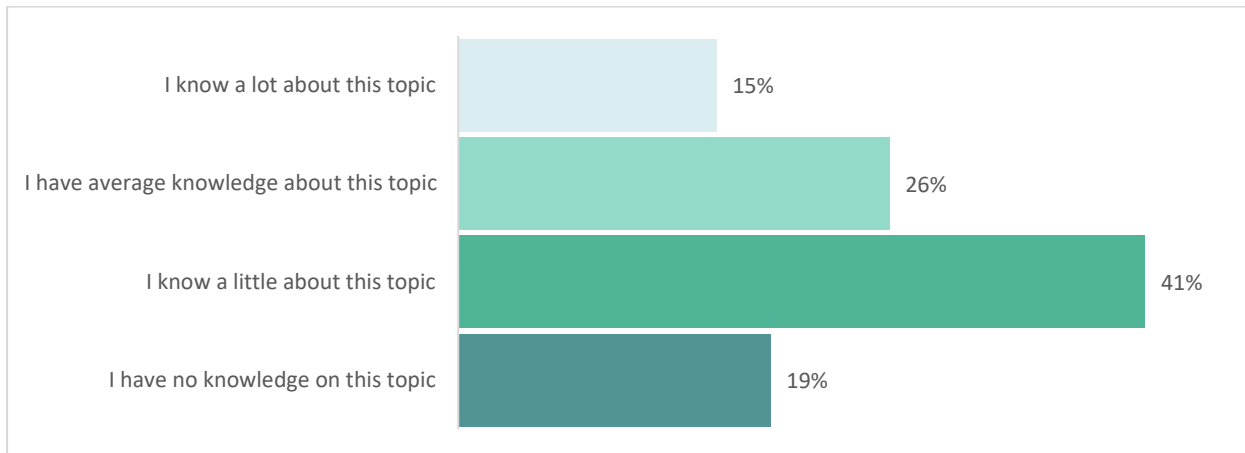
Kosovo Albanians generally claim to be aware of environmental threats more than Serbs and participants of other ethnicities.

Figure 4 To what extent are you aware of potential environmental threats to your health/your family's health? - by ethnicity



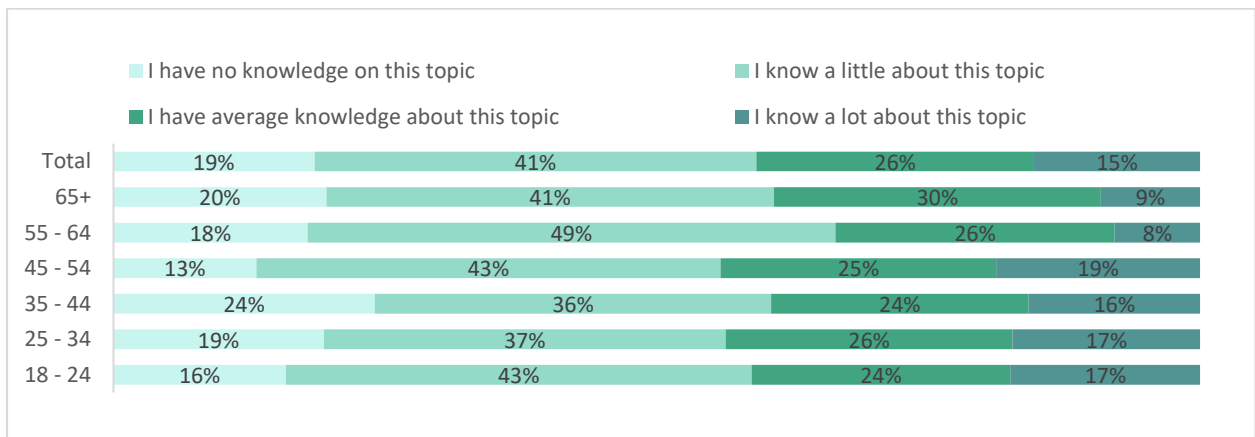
People's perception of their knowledge and awareness of their rights to a healthy and clean environment does not differ much from the question on health impacts. 19% of respondents claimed to have no knowledge, 41% said they know a little, 26% said that they have average knowledge, and finally 15% claimed to know a lot about this topic.

Figure 5 How much do you think you know your rights to live in a healthy and clean environment?



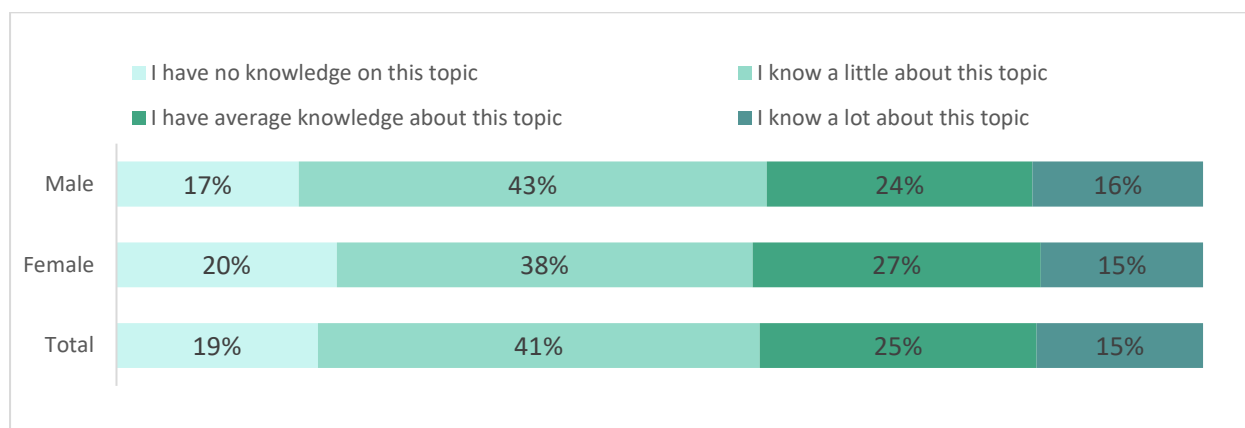
Respondents in the 45-54 age group appear to have more knowledge of the right to live in a healthy and clean environment, with only 13% of them stating that they have no knowledge about this right, 43% that they have little knowledge, 25% that they have average knowledge and 19% that they know a lot about it. Similarly, only 16% of the youngest bracket (18-24) said they have no knowledge, followed by 43% who claimed a little, 24% who said they have average knowledge and finally 17% who claimed that they know a lot about it.

Figure 6 How much do you think you know your rights to live in a healthy and clean environment? - by age



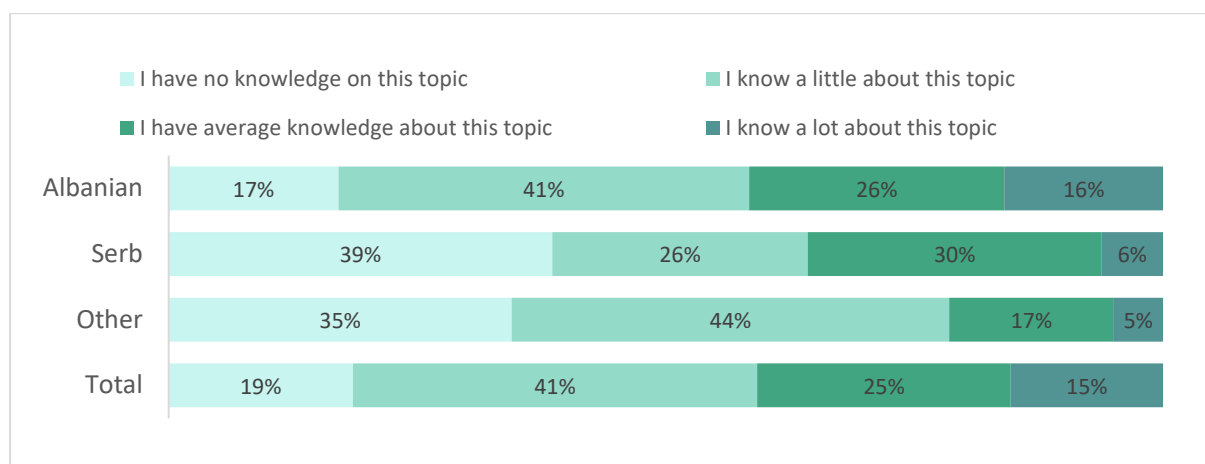
Data show no significant differences between men and women in knowledge about the right to a healthy and clean environment. For instance, 20% of women said that they have no knowledge about this right, compared to 17% of men. 38% of women participants declared that they know a little about this right, compared to 43% of men. 27% of women said they have average knowledge on this topic, compared to 24% of men. Finally, 16% of men and 15% of women claimed to know a lot about this topic.

Figure 7 How much do you think you know your rights to live in a healthy and clean environment? - by gender



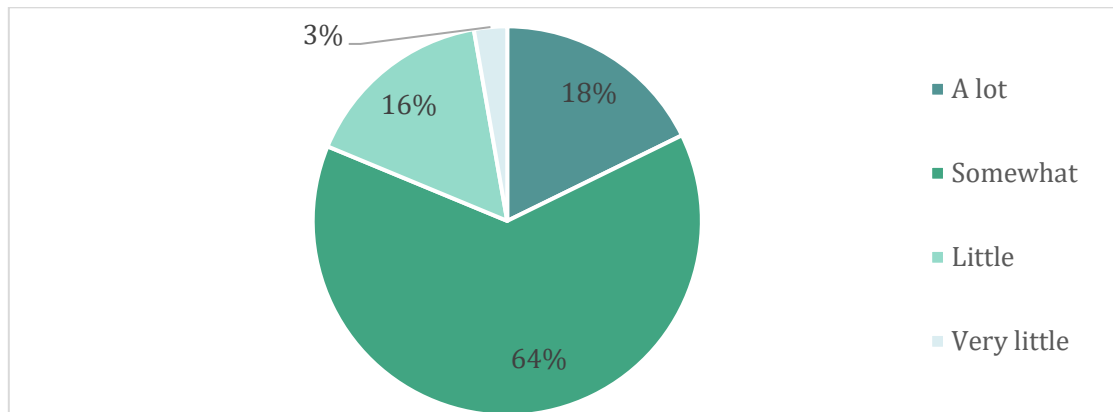
As with the question on knowledge of potential environmental threats to health, Albanians declare higher levels of awareness of the right to live in a healthy and clean environment, with only 17% of them stating that they have no knowledge on this topic. This compares with a worrying 39% of Serb participants and 35% from other ethnicities.

Figure 8 How much do you think you know your rights to live in a healthy and clean environment? - by ethnicity



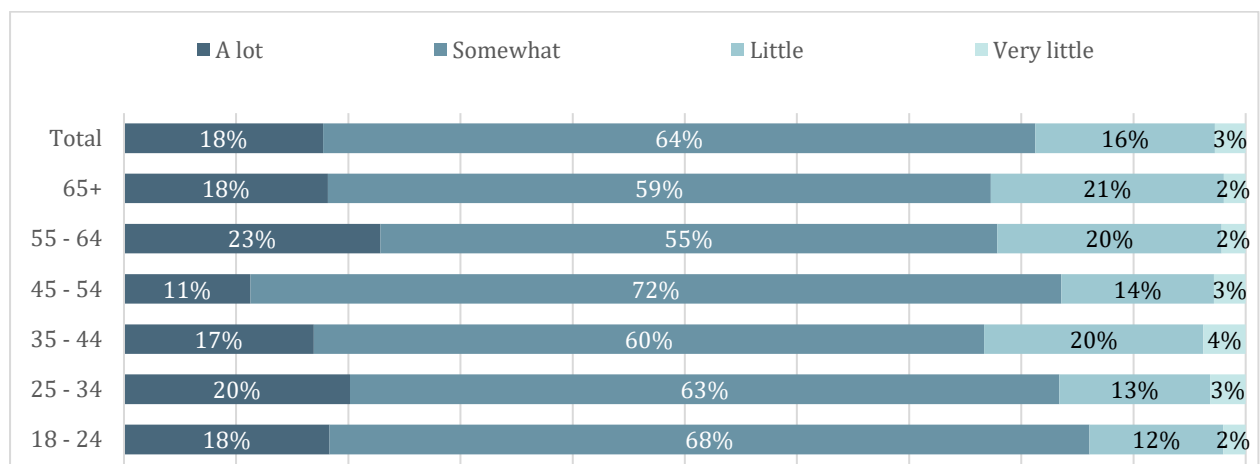
People’s awareness of whether Kosovo is affected by climate change was high, with 64% believing that Kosovo is to some extent affected and 18% saying that Kosovo is affected a lot. On the other hand, 16% believed that Kosovo is only a little affected, and 3% believed that it is very little affected.

Figure 9 Do you think Kosovo is affected by climate change?



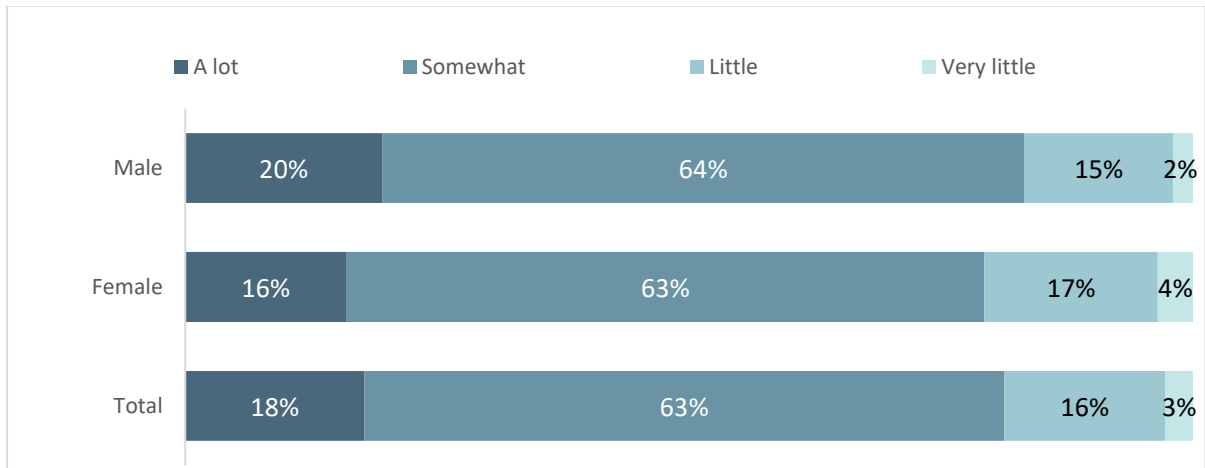
Respondents of all ages seem to think similarly in terms of climate change impact in Kosovo. Only 18% of the elderly (>65) believe that Kosovo is impacted a lot by climate change, 23% of the 55-64 age group, 20% of young adults (25-34) and 18% of young people (18-24). The majority of participants, with slight variation between age groups, believe that Kosovo is somewhat affected by climate change. This shows that general consensus is present among all age groups that climate change is more than just a concept. However, the fact that a significant majority answered “somewhat” to this question indicates that there is a confusion about what climate change impacts are and how they affect Kosovo.

Figure 10 Do you think Kosovo is affected by climate change? - disaggregated by age



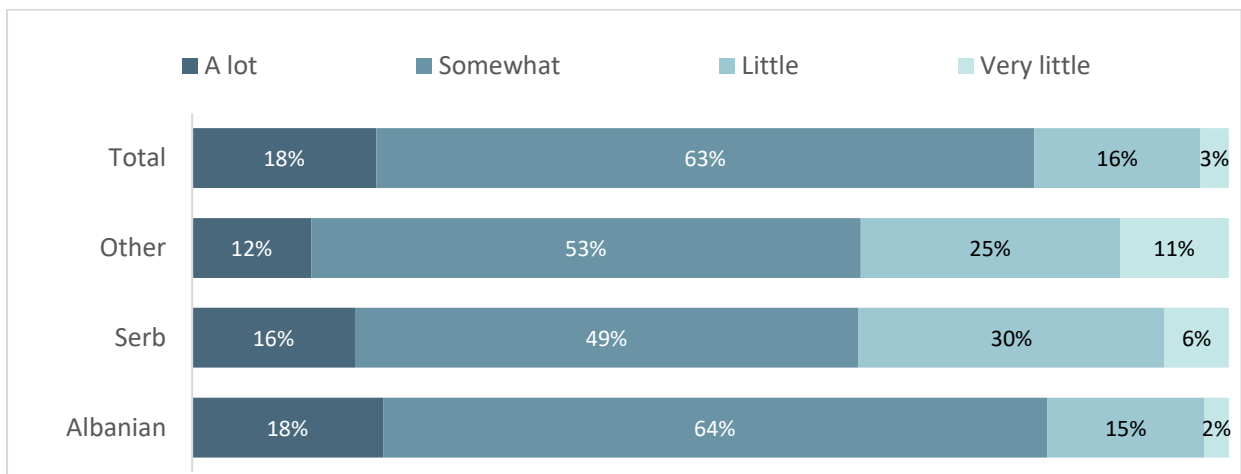
Men and women seem to think alike on the impact of climate change on Kosovo. 20% of men think that it is impacting a lot, 64% think that it is impacting to some extent, 15% think that it is impacting a little, and 2% think that it is impacting very little. Similarly, 16% of women think that climate change is impacting Kosovo a lot, 63% think that it is impacting somewhat, 17% stated that it is impacting a little and 4% think that it is impacting very little.

Figure 11 Do you think Kosovo is impacted by climate change? - by gender



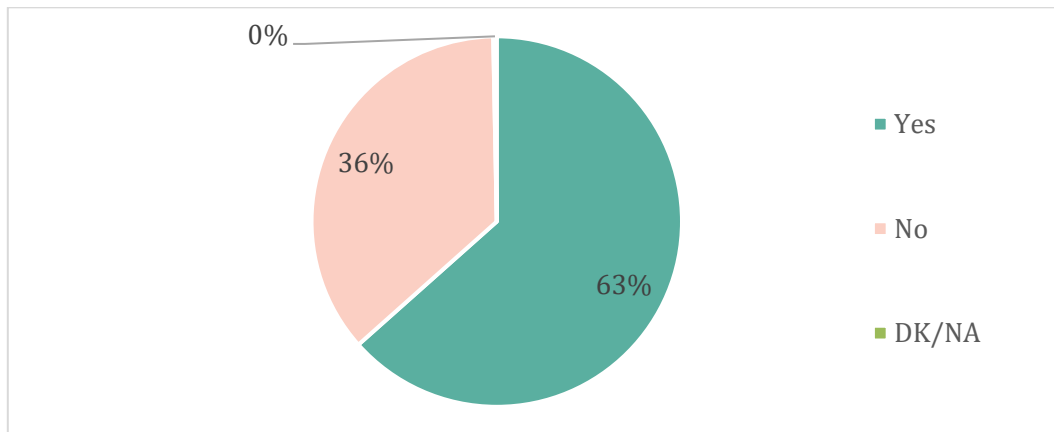
All ethnicities seem to have similar beliefs about the impact of climate change in Kosovo. For instance, 64% of Albanians, 49% of Serbs and 53% from other ethnicities believe that Kosovo is somewhat affected by climate change, while only 2% of Albanian participants, 6% of Serb participants, and 11% of respondents from other ethnicities believe that Kosovo is very little affected by climate change.

Figure 12 Do you think Kosovo is affected by climate change? - by ethnicity



When asked whether they have heard of climate change, the majority of respondents (63%) said that they have heard of it, while 36% said that they have not heard of it.

Figure 13 Have you heard of climate change?



Although young people (18-24) declared little knowledge about the impact of climate change on their health, the vast majority of them – roughly 70% – have heard about it. This is a positive finding, considering that young people constitute the majority of the population in Kosovo and bear a strong obligation to protect the environment and promote sustainable living. Nevertheless, other groups showed percentages not far short of this, from 61 - 63%. In addition, in the modern age with quick access to global information, the results indicate that the young age group receives ongoing news and mobilization on climate change awareness and climate action. However, the discrepancy between their response to hearing about climate change and knowing the impacts of climate change on their health indicates that they only receive the news without further in-depth analysis. Inclusion of climate change science and climate politics in the curriculum of the educational system, would support lessening these discrepancies.

Figure 14 Have you heard of climate change? – by age

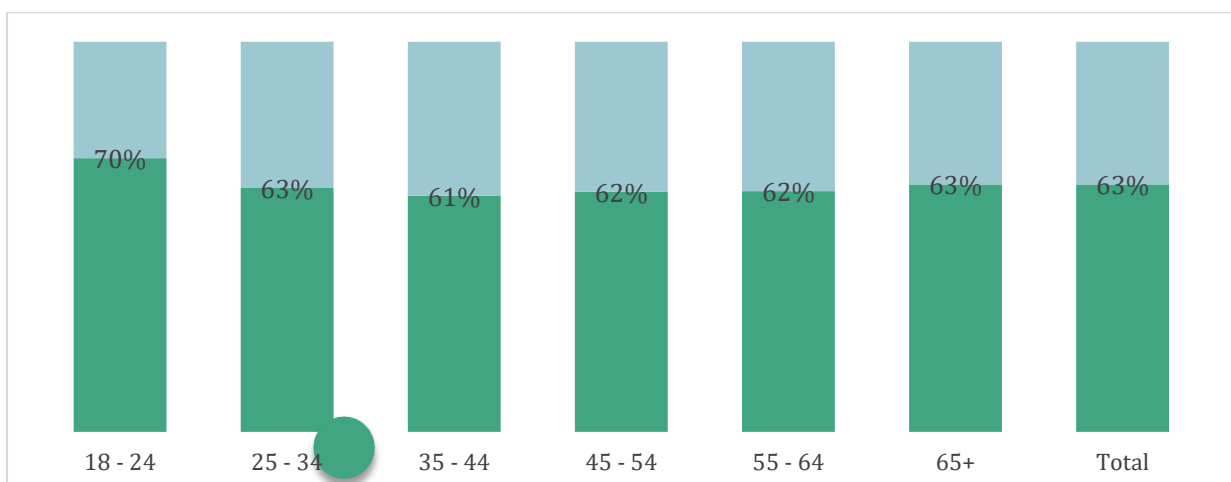
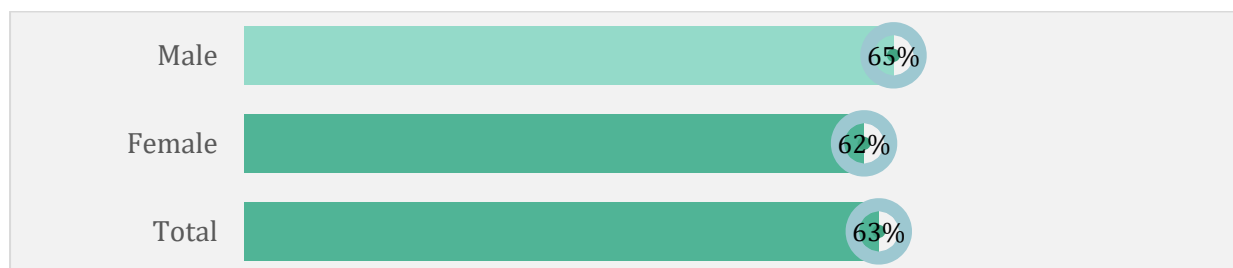


Figure 15 on gender disaggregation shows that, again, gender does not seem to be a determining factor in awareness, knowledge or access to information about climate change. 65% of men and 62% of women say they have heard of it.

Figure 15 Have you heard of climate change? - by gender



Among most ethnicities, most participants have heard of climate change: 65% of Albanians and 53% of respondents from other ethnicities. The figure for Serb participants is rather lower, however, with fewer than a half (38%) saying that they have heard of climate change.

Figure 16 Have you heard of climate change? - by ethnicity

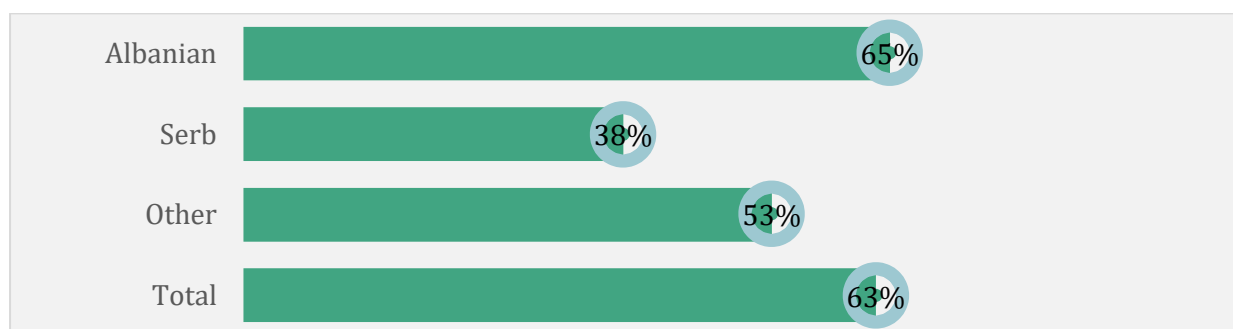
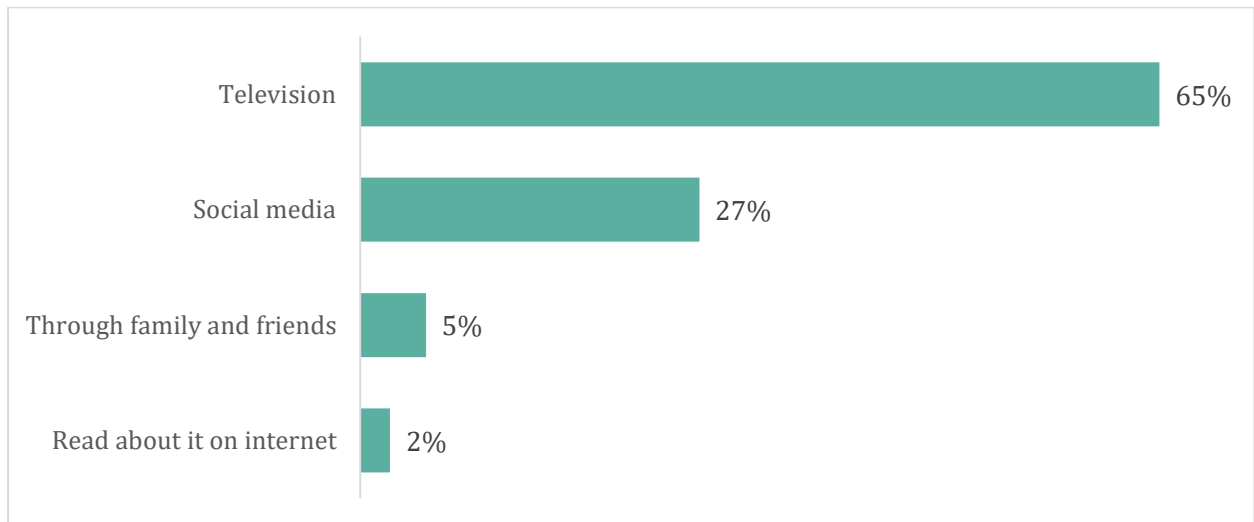


Figure 17 (below) shows the means by which people hear about climate change. Television (65%) is the most common, perhaps because environmental disasters are most commonly and effectively shown as TV images. After TV, social media (27%) is the second most common resource. This is to be expected, given the prevalence of social media in many people's information environment. Images on TV and social media help people see in real time the damage caused by climate change, and are thus more powerful than conversation. The data show that participants do not discuss the impact of climate change much with family and friends: only 5% of respondents say that they have heard of climate change by this means. Lastly, only 2% of respondents said that they have read about climate change on the internet.

Figure 17 Where did you hear about climate change?



Disaggregation of the data by age suggests that the source of information on climate change tracks wider norms of media habits and leisure. 90% of the oldest group (>65) and 93% of those aged 55-64 say that they have heard of climate change through television; the figures are 52% of younger adults (of 25-34) and 49% of young people (18-24).

Social media is the second most common source for younger adults and the least common for the elderly. 42% of young people (18-24) and 41% of younger adults (25-34) said that they have heard of climate change through social media. On the other hand, social media was the source for only 5% of participants in the 55-64 age group and 0% of the elderly (>65).

Figure 18 Where did you hear about it? - by age

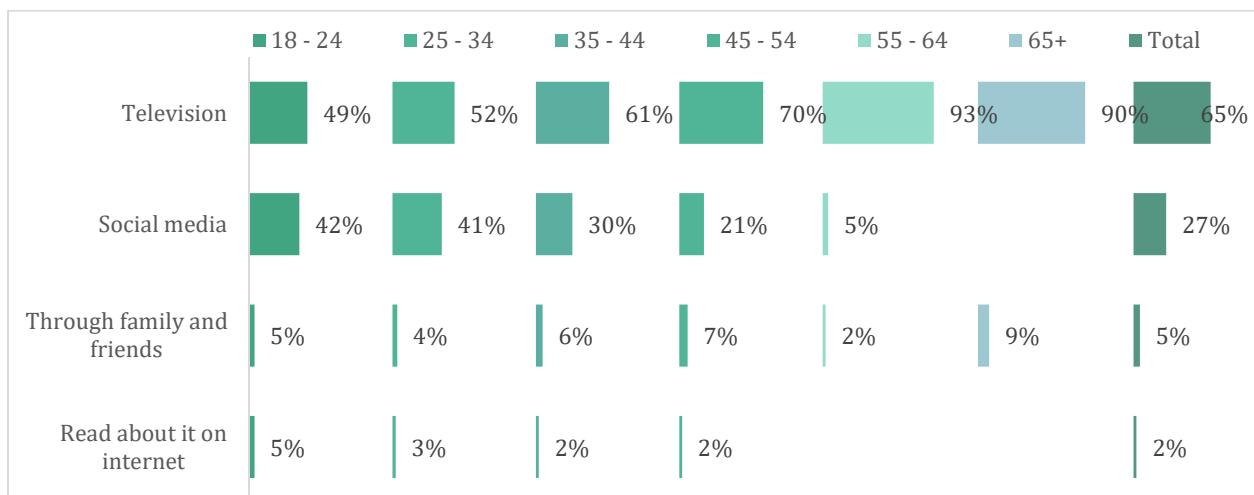
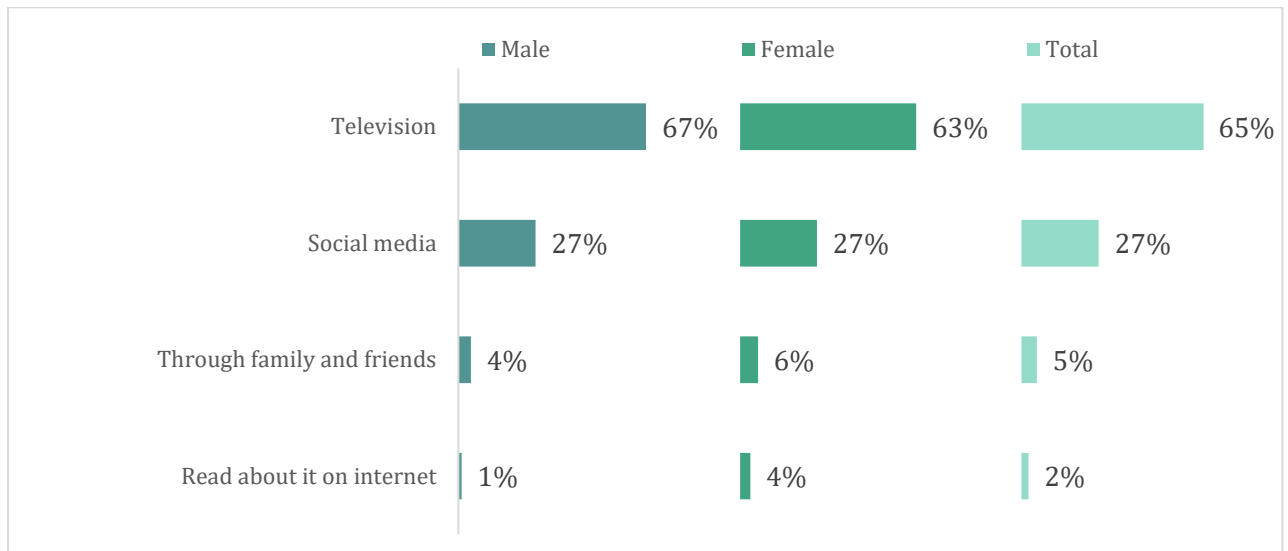


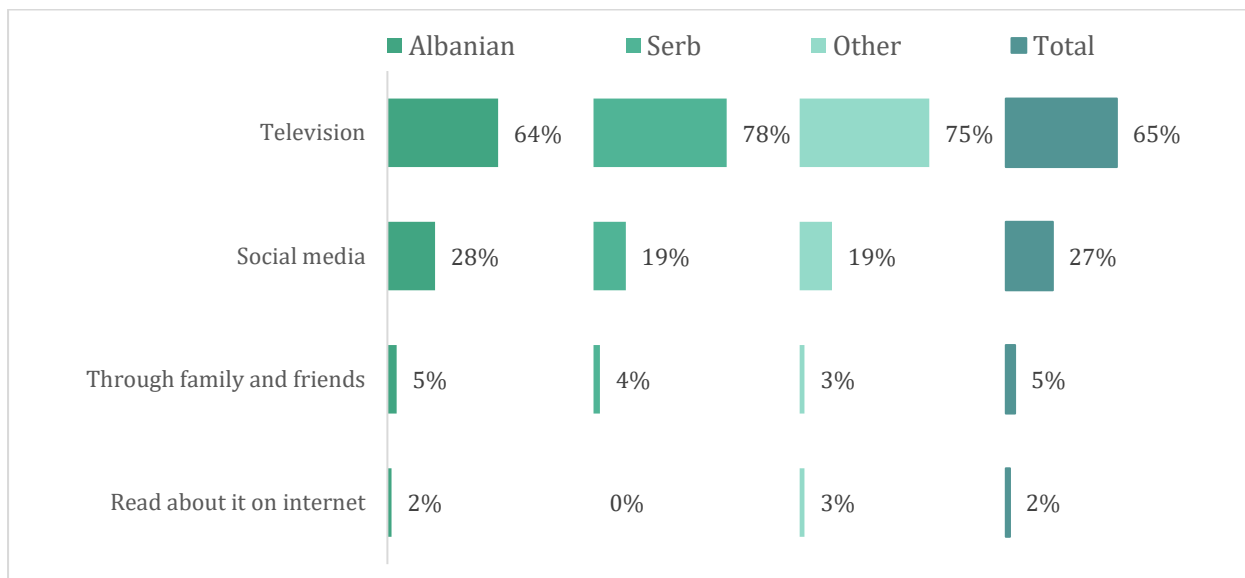
Figure 19 shows no significant difference in how men and women hear about climate change.

Figure 19 Where did you hear about climate change? - by gender



Television is a more significant source of information for Serb participants, with 78% of them confirming that they have heard of climate change through TV, followed by 75% of participants from other ethnicities and 64% of Albanians. Social media are the second most common source for all ethnicities, but with a different balance: 28% of Albanians claim to have heard about climate change mostly through social media, followed by Serbs (19%) and other ethnicities (19%).

Figure 20 Where did you hear about climate change? - by ethnicity



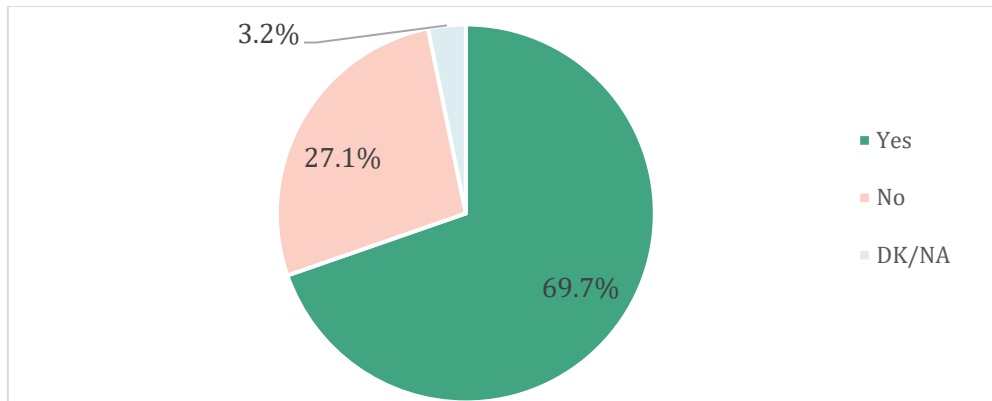
People's opinions about mitigating climate change

To better prevent environmental disasters, people need to change their behavior in relation to the environment. That would contribute to mitigating the effects of climate change which

can be already experienced through more extreme temperatures, changes in frequency or amounts of rain and more extreme storms.

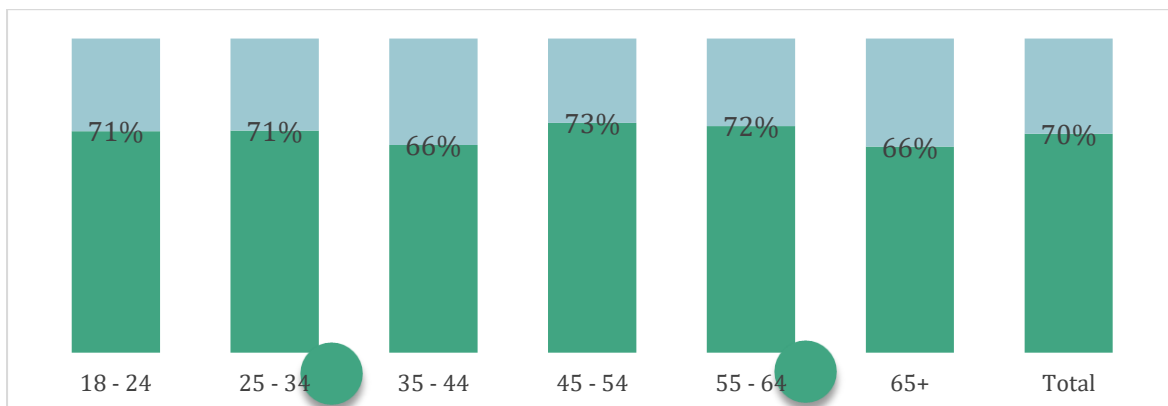
69.7% of respondents believe that the climate is changing, while 27.1% believe that it is not changing and 3.2% either did not know or refused to respond.

Figure 21 Do you feel that the climate is changing?



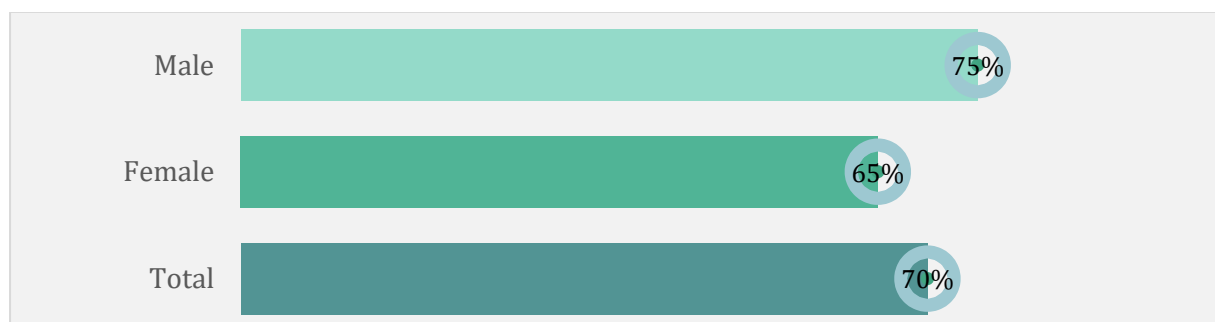
Data disaggregated by age, as seen in the figure below, show no significant differences between age groups. Approximately 70% of respondents from all age groups feel that the climate is changing.

Figure 22 Do you feel that the climate is changing? - by age



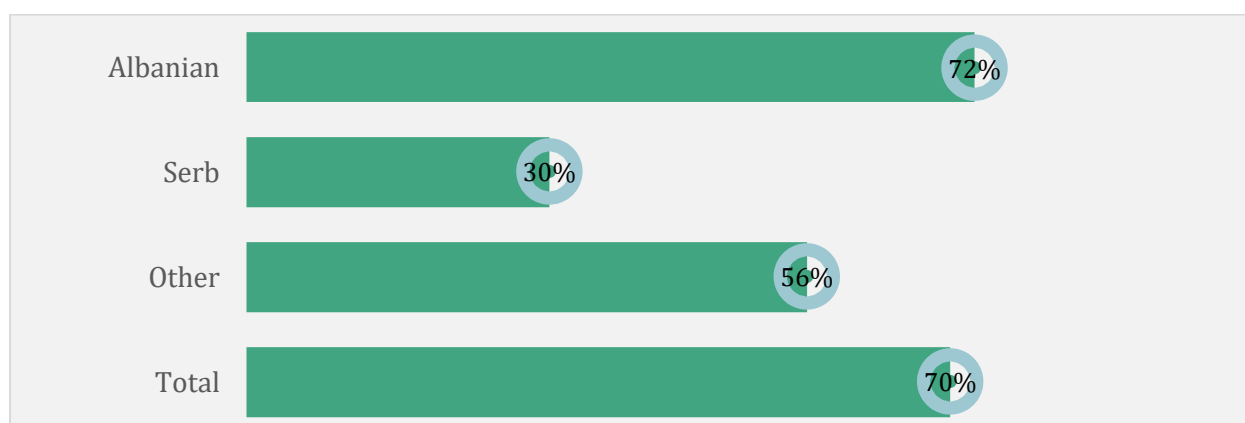
When it comes to gender differences, 75% of men believe that the climate is changing, compared to 65% of women.

Figure 23 Do you feel that the climate is changing? - by gender



Data show a significant difference in awareness of climate change between ethnicities: some 72% of Albanians feel that the climate is changing, compared to 30% of Serbs and 56% of participants from other ethnicities. This could be linked to their means of receiving information. Television is marginally a more significant source of information for Serb participants, with 78% of them confirming that they have heard of climate change through TV. In comparison to social media or reading articles on the internet, local television has the tendency to give less coverage to climate change. Information on social media or the internet is refreshed at a faster pace and reaches a larger audience. The education system in Kosovo provides harmonized curriculums for all ethnicities but in practice there may be differences. Lack of quality education and a curriculum that does not include lessons on ecology and climate science might contribute to differences in awareness of climate change between ethnicities.

Figure 24 Do you feel that the climate is changing? - by ethnicity



Participants were also asked how important climate change is to them. More than half of respondents (52%) perceive the issue of climate change as important, and 27% as very important. On the other hand, 16% consider the issue neither important nor unimportant, 3% as not important, and 1% as not important at all. 2% did not know or refused to respond.

Figure 25 How important is the issue of climate change to you?

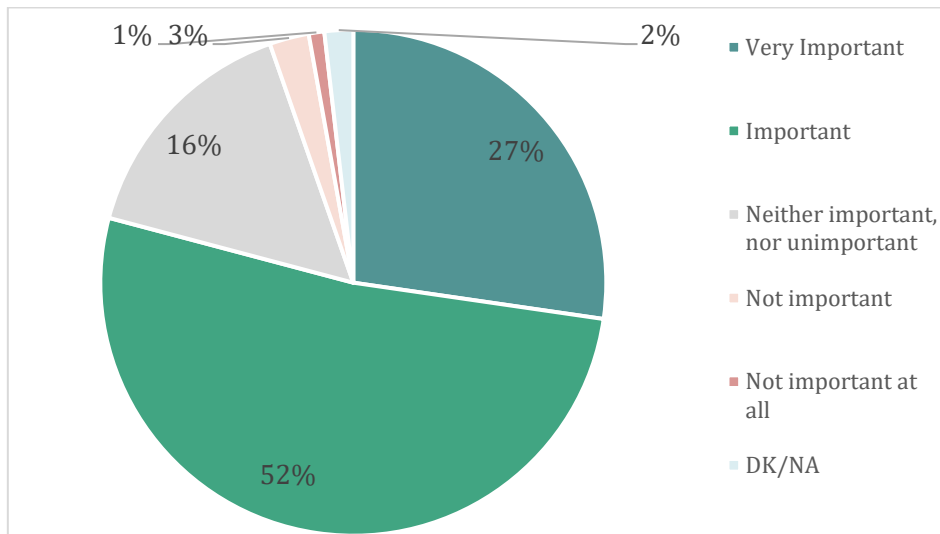
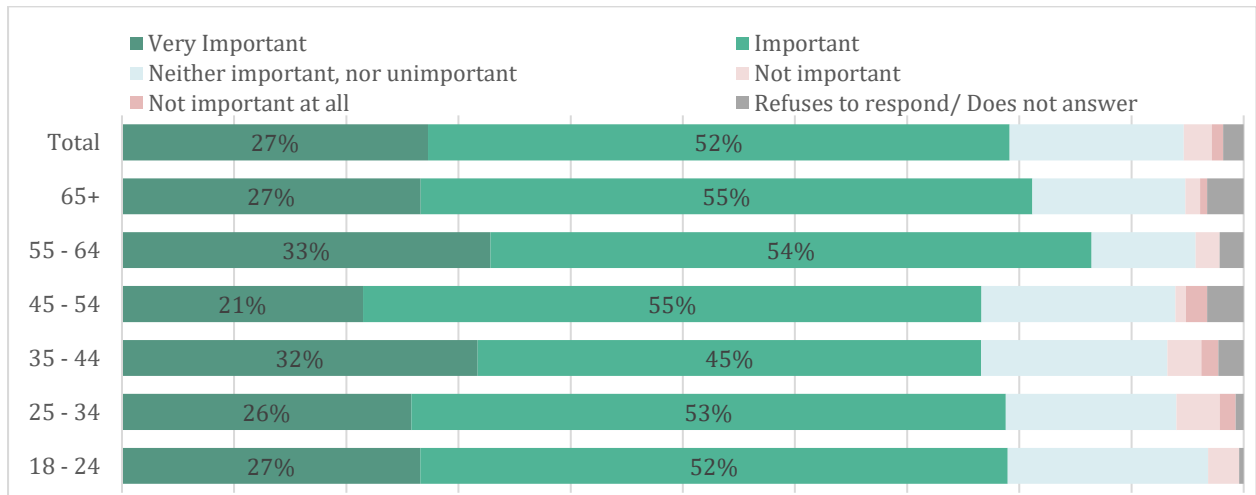


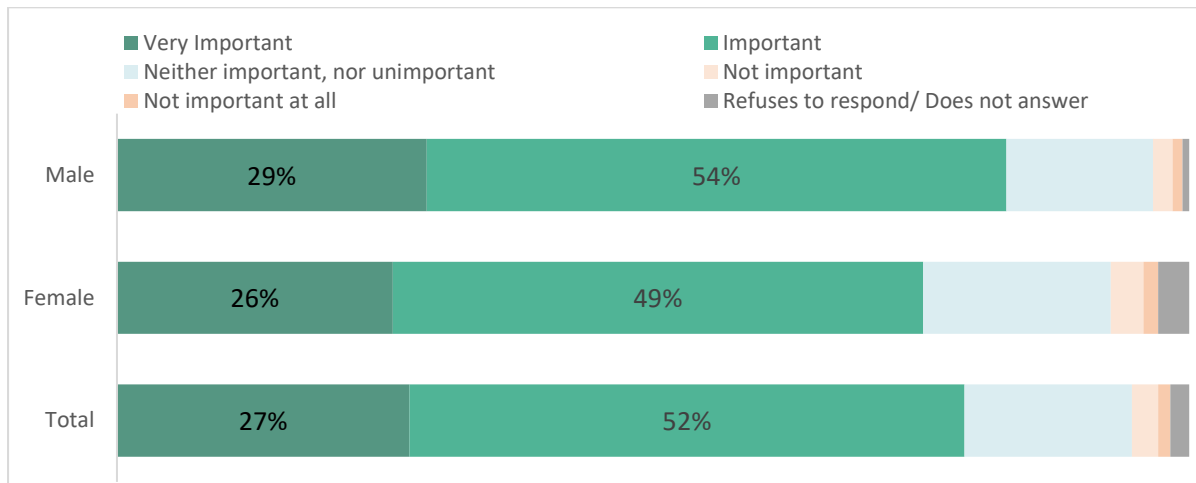
Figure 26 demonstrates only slight differences between age groups. More than 50% of respondents from each age group consider climate change an important issue to them.

Figure 26 How important is the issue of climate change to you? - by age



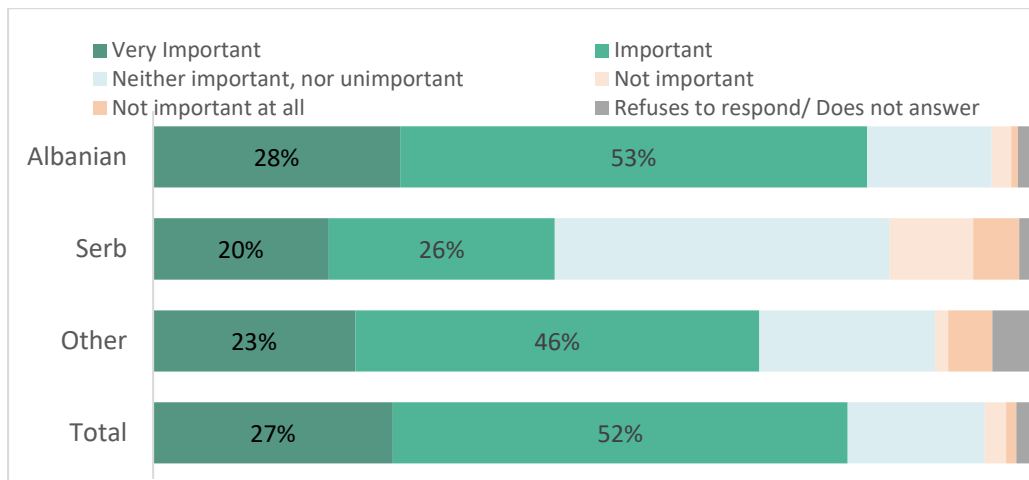
There are again no big differences between men and women when it comes to their assessment of the importance of climate change. 29% of men consider the issue of climate change as very important to them, and 26% of women; 54% of men see climate change as important, and 49% of women.

Figure 27 How important is the issue of climate change to you? - by age



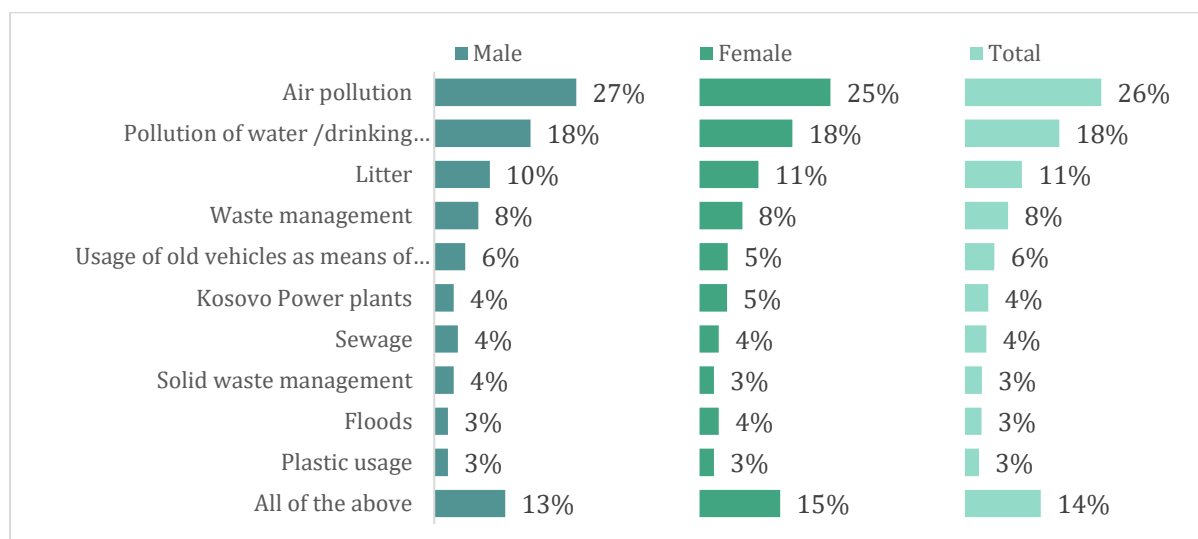
There is no significant disparity across ethnic groups who say climate change is a very important issue to them, with all of them between 20% and 30%. There is a much more significant disparity within those who consider it important: 53% of Albanian participants, 26% of Serbs and 46% of other ethnicities.

Figure 28 How important is the issue of climate change to you? – by ethnicity



As figure 29 (below) shows, when asked to identify their top concerns from a list of environmental issues, respondents were most likely to choose air pollution as the most pressing (26%). This was followed by pollution of water/drinking water/rivers (18%), litter (11%), poor waste management (8%), use of old vehicles for transport (6%), power plants (4%), sewage (4%), solid waste management (3%), floods (3%), and plastic (3%). 14% cited all of the above.

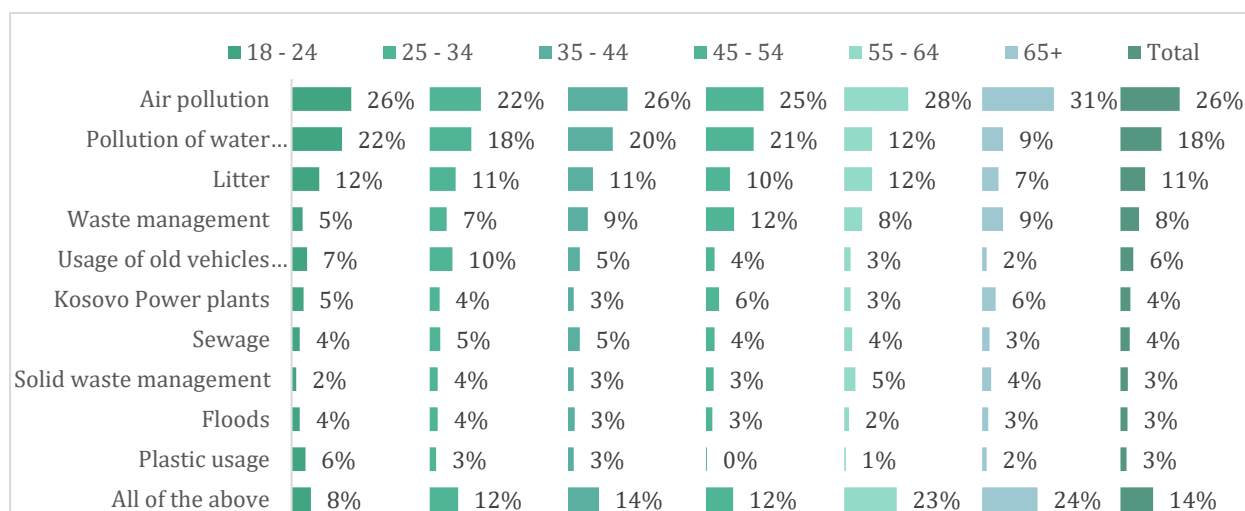
Figure 29 Of this list of environmental issues affecting Kosovo, what concerns you the most?



Data disaggregated by age do not significantly change the hierarchy of concerns: all age brackets consider air pollution the biggest threat to them. Below that, among the elderly (>65) there is a less pronounced prioritization of concerns: only 9% of them see water pollution of water/drinking water/ rivers as their biggest concern, compared to some 20% of young, adult and middle-aged respondents.

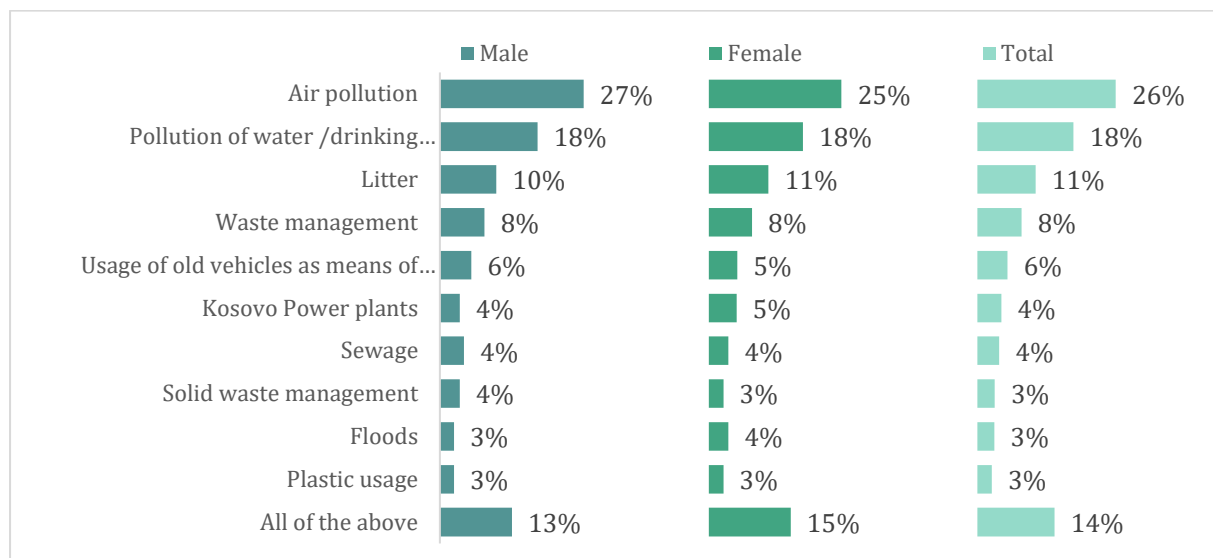
Although plastic pollution is recognized around the world as a major environmental concern, given its impact on water quality, animal welfare and human health, our data show that it is considered less of a priority in Kosovo based on the responses to this survey. 0% of respondents aged 45-54 and only 1% of those aged 55-64 consider plastic as the biggest threat. Compared to their elders, young people seem relatively more aware of and concerned by the impact of plastic use on the environment: 6% chose it. It should be noted that some 14% of participants from all age groups have selected the “all of the above” (including plastic use) as their concern, but the relative indifference to plastic use is still noteworthy.

Figure 30 Of this list of environmental issues affecting Kosovo, what concerns you the most? - by age



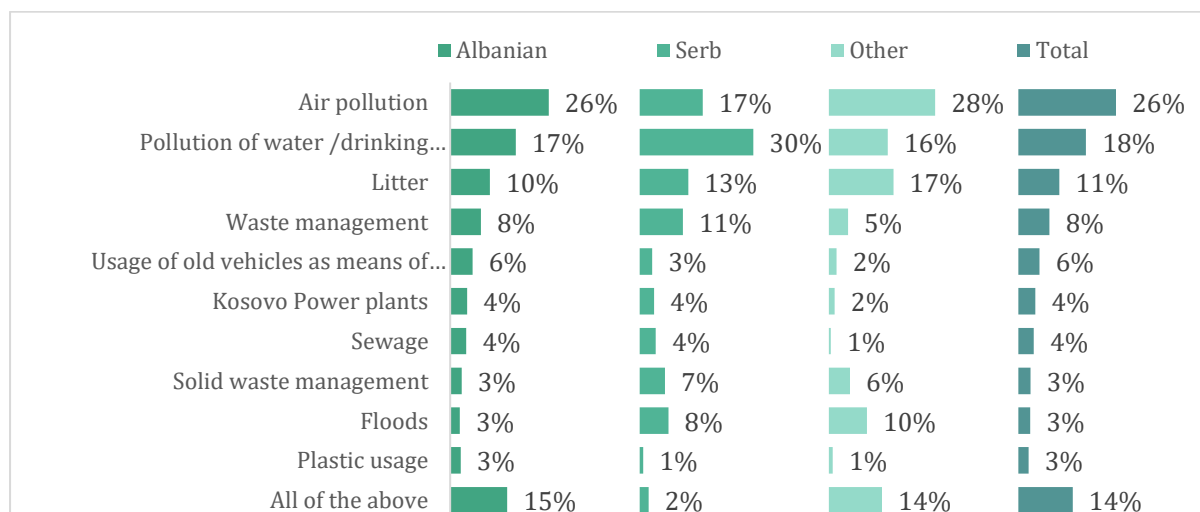
Data disaggregated by gender show no significant differences between men and women in listing their highest environmental concerns. Both women and men rank air pollution above the 20% threshold, followed by pollution of water (18% of participants from both genders).

Figure 31 Of this list of environmental issues affecting Kosovo, what concerns you the most? - by gender



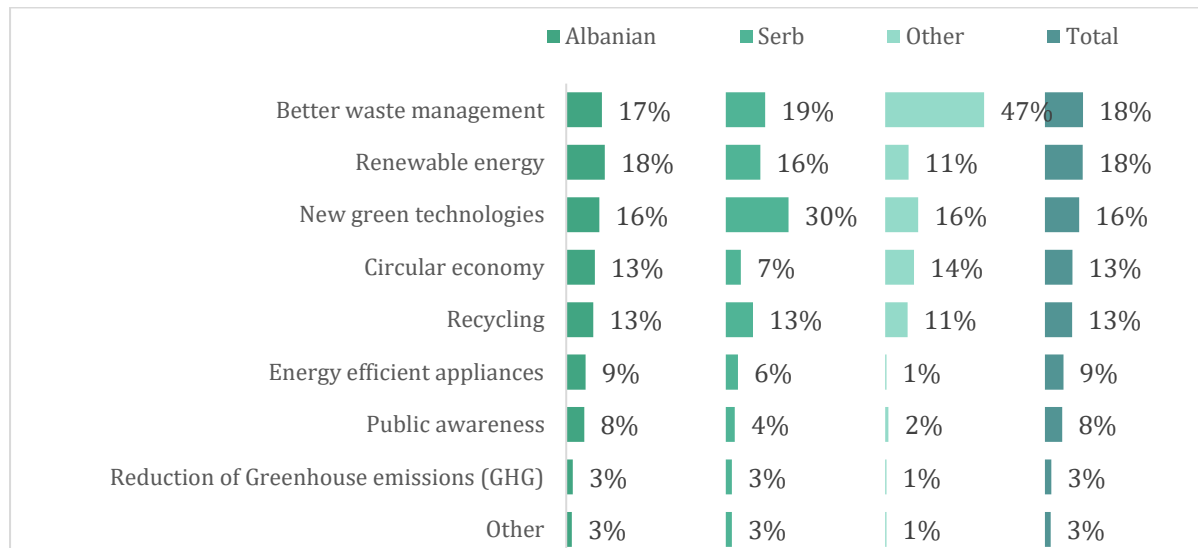
Ethnically disaggregated data reveal some interesting distinctions: pollution of water/drinking water/rivers is considered as the highest concern (30%) for Kosovo Serb participants, while it is second highest for Kosovo Albanians (17%) and third highest for respondents from other ethnicities (16%). For Kosovo Albanians (26%) and respondents of other ethnicities (28%), air pollution remains the top concern, while only 17% of Serb participants agree. This could be linked to differences in quality of drinking water infrastructure among municipalities with higher percentage of one ethnic group over the other. Serb majority municipalities and the respective regional water companies have less coordination with central institutions on accessing funds to improve their drinking water infrastructure.

Figure 32 Of this list of environmental issues affecting Kosovo, what concerns you the most? - by ethnicity



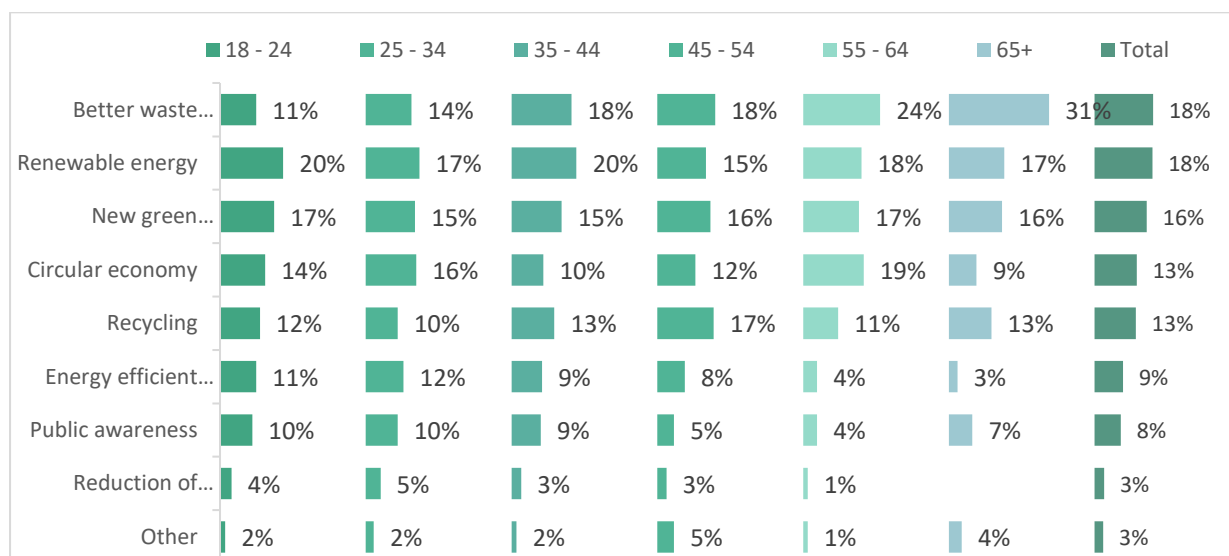
Respondents were also asked to share their opinions on ways to reduce the negative effects of climate change. Better waste management (18%) and the use of renewable energy (18%) had the highest percentage score. The ranking of other options to mitigate climate change was: new green technologies (16%), circular economy (13%), recycling (13%), energy efficient appliances (9%), public awareness (8%), reduction of greenhouse gas emissions (3%) and then other (3%).

Figure 33 What do you think can help mitigate the negative effects of climate change?



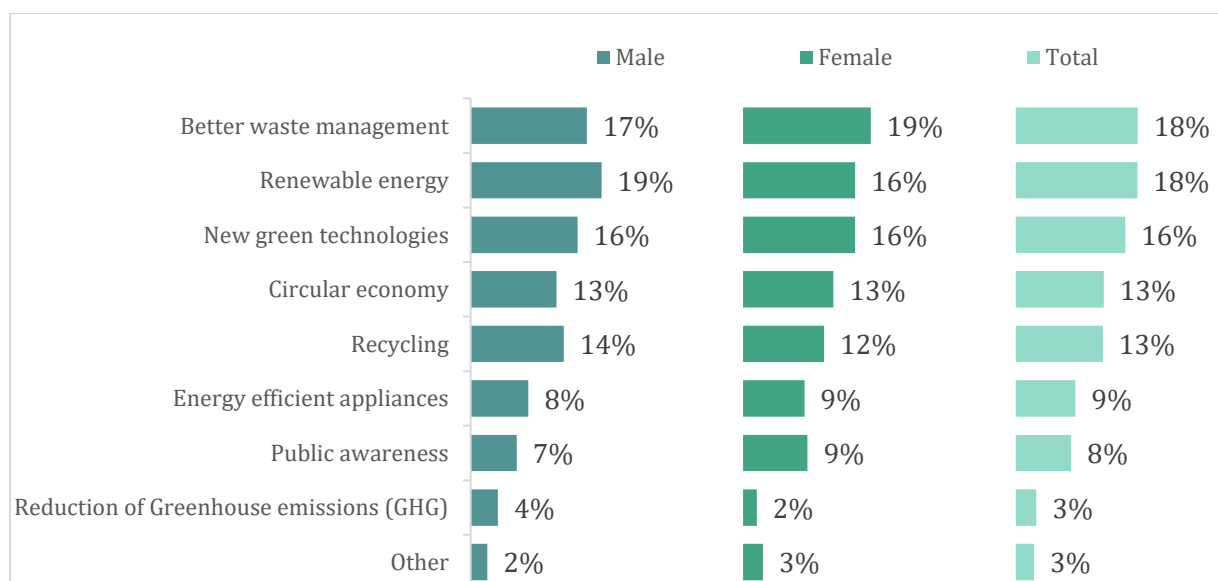
While 31% of the elderly (>65) thought better waste management was the best mitigation of climate change, only 11% of young people (18-24) agreed. Renewable energy, ranked second overall, was more equally endorsed by participants across all age groups. While the waste sector contributes to GHG emissions, fossil fuel burning contributes most. However, given that the majority of participants selected “waste management”, “litter”, “solid waste management” and “plastic pollution” as the environmental issue that concerns them the most, it makes sense that they chose “better waste management” as the best mitigation of climate change. That is despite the fact that better waste management contributes negligibly in the mitigation of climate change. This goes to prove two key assumptions: 1) the public is not aware of the causation of climate change and GHGs; and 2) the public is concerned with an environmental issue that is more tangible to their everyday life, seeing their environment polluted by solid waste.

Figure 34 What do you think can help mitigate the negative effects of climate change? - by age



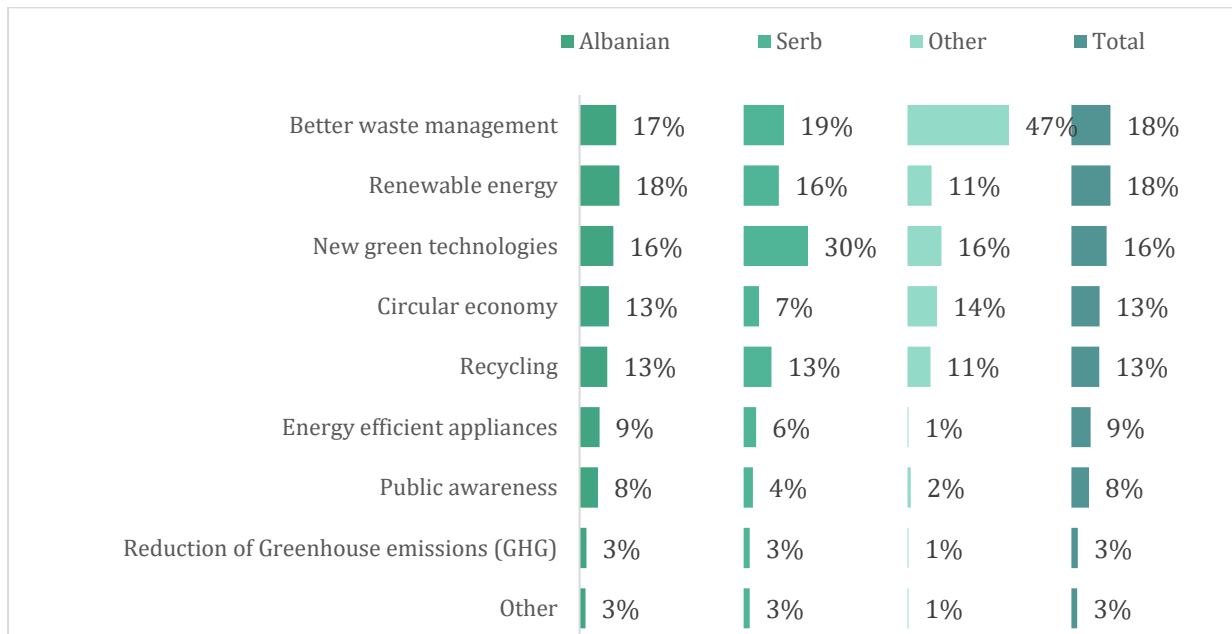
Gender disaggregated data show that renewable energy was ranked by men (19%) as the first solution to counter the negative effects of climate change, and slightly lower by women (16%). Both women (19%) and men (17%) endorse better waste management.

Figure 35 What do you think can help mitigate the negative effects of climate change? - by gender



Ethnically disaggregated data show that respondents of other ethnicities were substantially more impressed (47%) by better waste management as a means of mitigating the negative effects of climate change, compared to Serbs (19%) and Albanians (17%). 30% of Serbs (30%) are most interested in green technologies, with Albanians and respondents of other ethnicities less impressed (both 16%). Albanians ranked renewable energy (18%) as the top solution to mitigate climate change, while Serbs (16%) and other ethnicities (11%) were less optimistic about it.

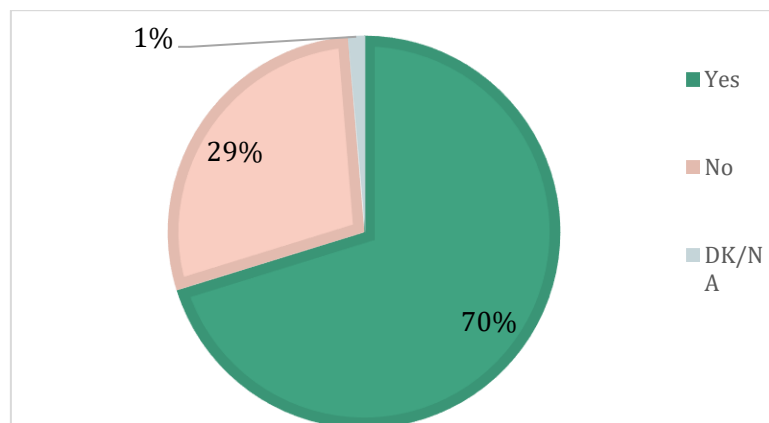
Figure 36 What do you think can help mitigate the negative effects of climate change? - by ethnicity



Opinions about central institution funding to mitigate climate change and encourage decarbonization.

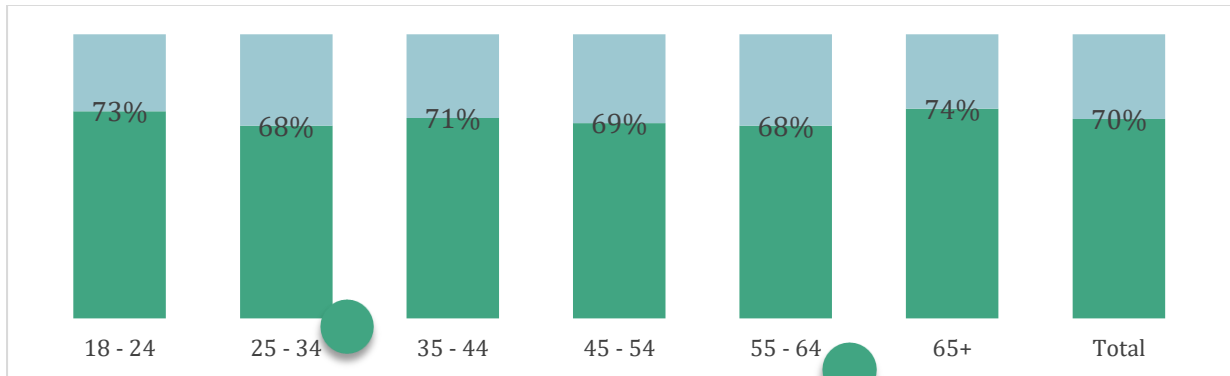
Figure 37, below, shows that a significant majority of respondents (70%) would support institutional funding to assess the impact of climate change on the Kosovo population. A noteworthy 28% stated that they would not support such funding, and 1% did not know.

Figure 37 Would you support institutional funding (your taxes) to assess the impact of climate change, such as air pollution, on the Kosovo population?



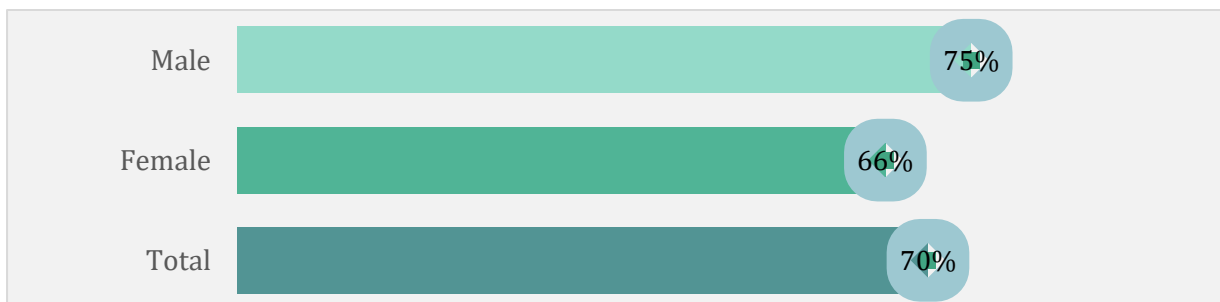
The research shows no significant difference between age groups in supporting institutional funding to assess the impacts of climate change. Around 70% of respondents from each age group feel that they would support such an assessment.

Figure 38 Would you support institutional funding (your taxes) to assess the impact of climate change, such as air pollution, on the Kosovo population? - by age



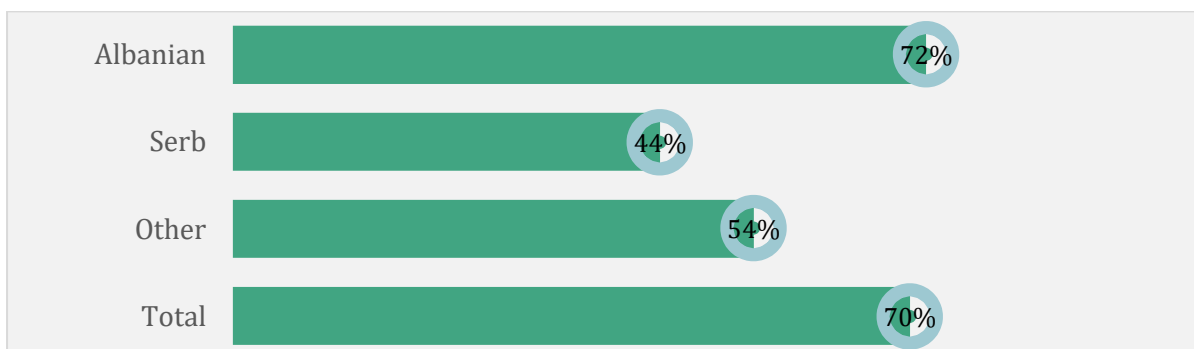
Gender disaggregated data show that men (75%) are more eager to support institutional funding in assessing the impact of climate change on the Kosovo population, while women are less eager (66%). Nevertheless, a clear majority of men and women stated that they would support such institutional action.

Figure 39 Would you support institutional funding (your taxes) to assess the impact of climate change, such as air pollution, on the Kosovo population? - by gender



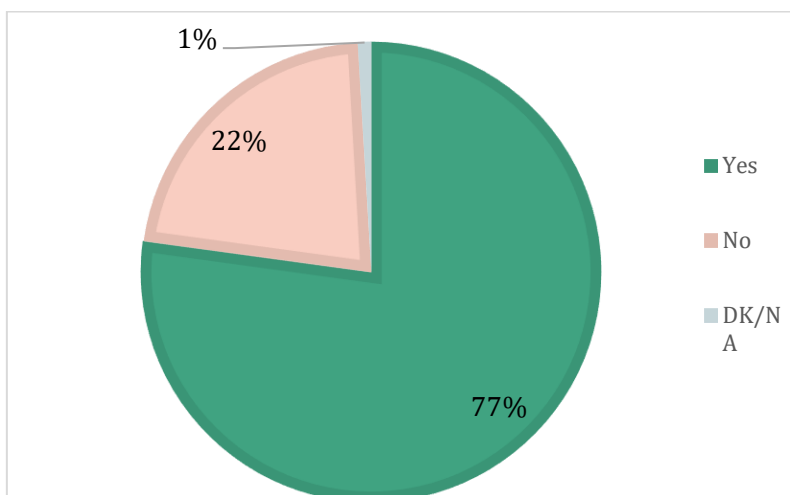
Ethnically disaggregated data show that a significant majority of Albanian respondents (72%) would support institutional funding to assess the impact of climate change on Kosovo. Respondents of other ethnicities (54%) and Serbs (44%) were relatively less willing.

Figure 40 Would you support institutional funding (your taxes) to assess the impact of climate change, such as air pollution, on the Kosovo population? - by ethnicity



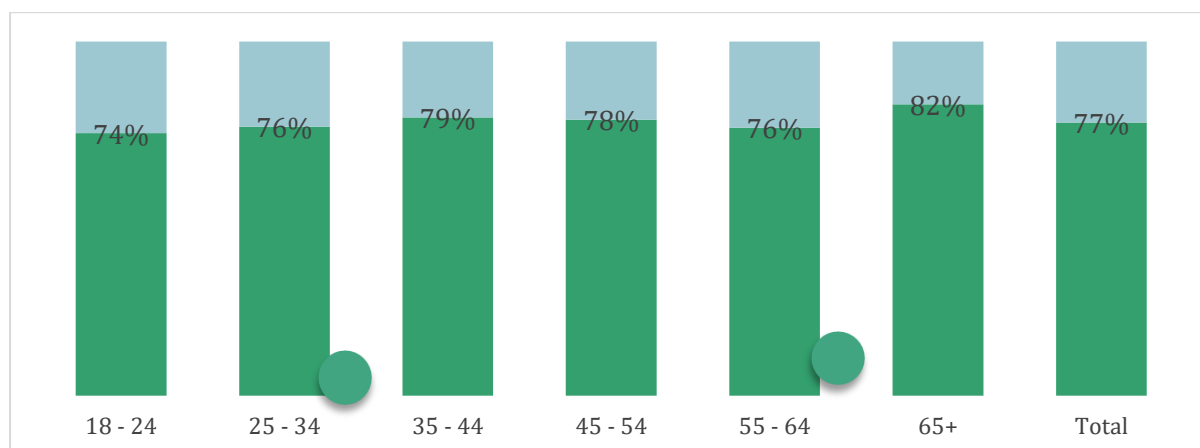
Participants were also asked to share their thoughts regarding penalty fines for littering and for introducing a fee for plastic bags. Again, a clear majority (77%) indicated that they would support such initiatives, while 22% stated that they would not. Although, as above, respondents did not generally rank plastic pollution as a top problem, willingness to support such a response by central institutions suggests recognition of the impact of plastic pollution on the environment.

Figure 41 Would you support the central institutions/municipality if they imposed penalty fines for littering and plastic bags?



The elderly (>65) expressed the highest level of support on this matter (82%), followed by adults in the 35-44 bracket (79%). Young people’s support for measures against littering and plastic bags was relatively weakest (74%), but still very considerable and not significantly different to their elders.

Figure 42 Would you support the central institutions/municipality if they imposed fee for littering and plastic bags? - by age



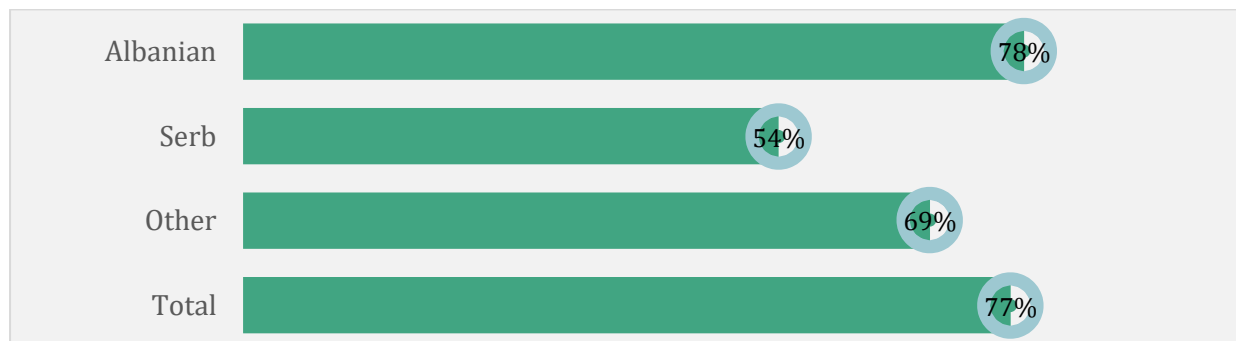
Men were rather more supportive (81%) than women (73%).

Figure 43 Would you support the central institutions/municipality if they imposed fees for littering and plastic bags? - by gender



Ethnically disaggregated data show that Albanians have the highest willingness (78%) to support central institutions and municipalities imposing fines for littering and fees for plastic bags. The vast majority (69%) of respondents from other ethnicities also expressed support. Though still supportive, Serb respondents were relatively more cautious (54%).

Figure 44 Would you support the central institutions/municipality if they imposed fines for littering and plastic bags? - by ethnicity



In the opinion poll conducted in April 2022, Respondents were also asked whether they would be willing to pay higher electricity tariffs for the sake of minimizing the impacts of climate change for future generations. 31% of respondents stated that they would be willing to pay higher tariffs, while 65% would not, and the remaining 4% either refused to answer or did not know.

Figure 45 Are you willing to pay higher electricity tariffs for the sake of minimizing the impacts of climate change for future generations?

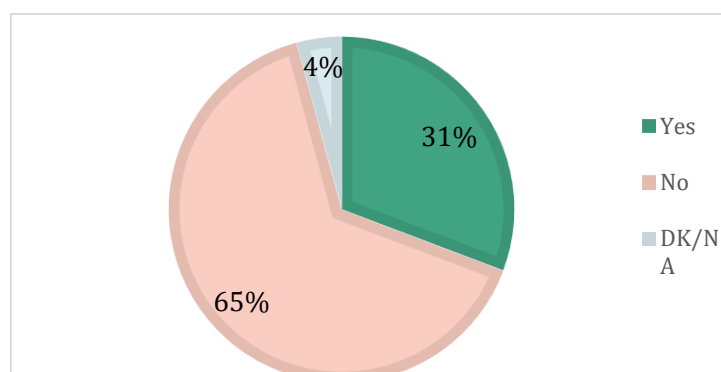
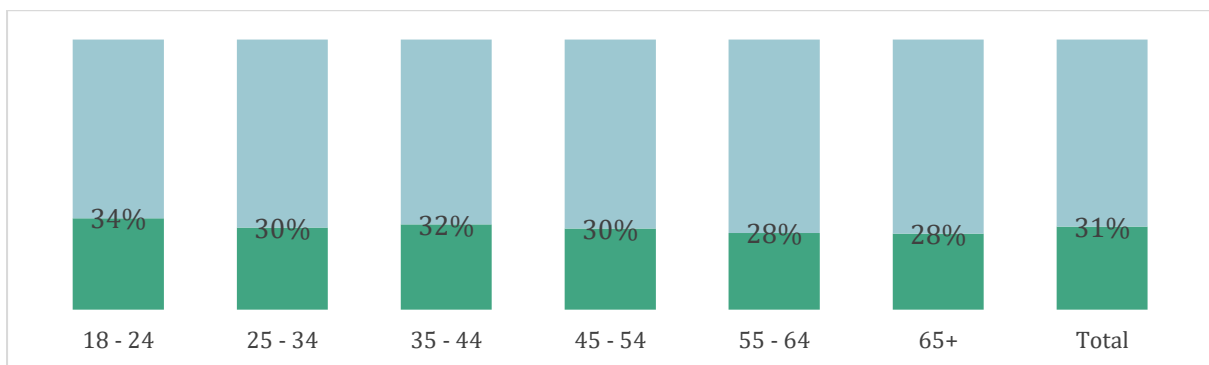


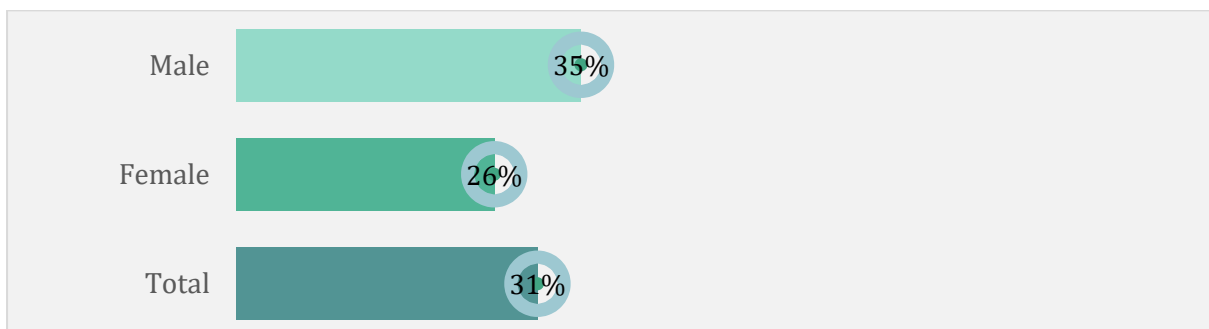
Figure 46 (below) illustrates that participants of all age groups expressed similar levels of willingness to pay higher electricity bills. Young people (18-24) were relatively more ready (34%), compared to respondents aged 55-64 years old and the elderly (>65) – both 28%. It would be interesting to assess the same question now with new decisions on tariffs due to the impact of the European energy crisis. In the next analysis, it would be informative to see how many participants vote in favor of a certain bracket of tariff increase as proposed by the Energy Regulatory Office. In reality, the current tariff changes are only reflecting the impact of exogenous factors on the energy import market and are not necessarily linked to minimizing the impacts of climate change. If the new tariffs remain in alignment with incentives on prosumers of clean energy such as the net metering policy, then higher electricity tariffs do contribute to minimizing impacts of climate change. Similarly, if higher tariffs are tied to an additional revenue stream to fund renewable energy projects, increase grid capacity for renewable or other projects that lower GHG emissions, then policymakers can use this finding to reassure them that the public generally supports such a mechanism.

Figure 46 Are you willing to pay higher electricity tariffs for the sake of minimizing the impacts of climate change for future generations? - by age



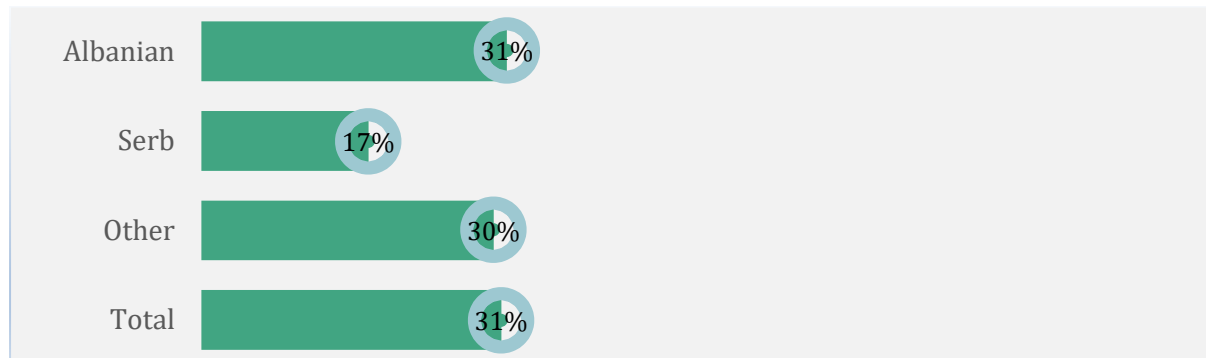
Disaggregated data show some variation by gender on this question. 35% of men declared that they would be willing to pay higher tariffs, compared to 26% of women.

Figure 47 Are you willing to pay higher electricity tariffs for the sake of minimizing the impacts of climate change for future generations? - by gender



Finally, data disaggregated by ethnicity show that Albanians (31%) and respondents of other ethnicities (30%) appear to be more willing to pay higher electricity tariffs in comparison to Serb respondents (17%).

Figure 48 Are you willing to pay higher electricity tariffs for the sake of minimizing the impacts of climate change for future generations? - by ethnicity



Findings from Focus Group Discussions

Seven focus group discussions were conducted during April and May 2022, to acquire in-depth information and perceptions from various groups of stakeholders on climate change and carbon footprint in Kosovo. Stakeholders included representatives of central and local institutions directly involved in the field of climate change, local and Kosovo-wide NGOs that work in the field, self-proclaimed green businesses, manufacturing companies, and other service-related companies.

All discussions began with a round of introductions to get participants more comfortable and more acquainted with the topic. Themes were separated into four sections: 1) general perceptions of climate change and carbon footprint in Kosovo; 2) Kosovo's challenges and responses to climate change and carbon footprint; 3) stakeholder awareness about Kosovo and international efforts on climate change and decarbonization; 4) the way forwards. Cross-stakeholder analysis was conducted for each section and findings were divided thematically.

I. General perceptions of climate change and carbon footprint in Kosovo

Participants seem to hold similar perceptions and beliefs about the impact of climate change and carbon footprint in Kosovo. Their perceptions differed only in terms of ranking the top pollutants and solutions. All have heard of climate change and are aware of its adverse impacts, and of the challenges to Kosovo in moving towards a greener future with fewer climate change effects.

All stakeholders were aware of Kosovo's policy documents and strategies on climate change and carbon footprint, such as the Climate Change Strategy (2019-2028).¹⁴ They were given outline information about other policy documents.

All stakeholders were consistent in stating that these strategies have not been implemented fully. Even central authority representatives consider that more needs to be done in this direction. NGOs expressed their concern with Kosovo's slow progress in respecting international agreements. For instance, they mentioned how Kosovo is obliged under international agreements to achieve decarbonization by 2050¹⁵. They perceive that Kosovo could easily be isolated by the European Union (EU) if it fails to adhere to the EU's standards and does not respect its own pledges. NGOs believe that Kosovo lacks proper green policies and stimuli for individuals and businesses to act against climate change and decarbonization challenges. Central authority participants said that the socio-economic impacts of COVID-19 had prevented climate change from being dealt with as an urgent issue. One participant from an NGO stated that air pollution and climate change have always been a problem:

“The reason why we did not take [climate change] seriously is simply that for more than 22 years we have been dealing with other issues as a society, such as politics, socio-economic development and employment.”

Central institutions view greenhouse gas emissions as one of the key environmental pollutants. They deem it important to focus on decarbonization of the energy sector and how it may reduce dependence on fossil fuels and the increased use of alternative energy sources such as renewables. Untreated wastewater, silcapor, aluminum powder, landfills, domestic livestock waste, and medical waste were also ranked as top environmental pollutants. Participants from central institutions further mentioned the manufacturing industry as another key polluter due to excessive waste and leaks. Service businesses indicated that certain manufacturing companies do not have filtering mechanisms in place. It is important to note here that neither central institutions, nor manufacturing companies are aware of the harmful gases that they emit. On the other hand, manufacturing companies consider the use of coal and the construction sector as the largest polluters. Representatives of municipal authorities agree that factories are among the key polluters, without specifying the industry. They mentioned that lack of public transport and the use of old buses for public transport also cause significant harm to the environment. Municipalities proposed drafting a municipal strategy on Smart Cities to offer alternative transportation to vehicles with conventional fuel.

All stakeholders, including the business community, mentioned lack of public awareness. All stakeholders believe that more needs to be done in educating the population, especially

¹⁴ Ministry of Environmental and Spatial Planning, Climate Change Strategy 2019- 2028 Action Plan On Climate Change 2019- 2021, retrieved from: <https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=29356>

¹⁵ Please note that Kosovo is officially committed to achieve a carbon neutral continent (Europe) by 2050 through the Sofia Declaration on the Green Agenda for the Western Balkans. European Commission, 2020, Western Balkans Summit in Sofia: Important steps taken to advance regional cooperation to boost socio-economic recovery and convergence with the EU, retrieved from: https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2051

young people. NGO participants believe that besides low public awareness there is also lack of institutional awareness.

Finally, NGO participants acknowledged that there had been some progress in this sector. They noted that steps have been taken to treat wastewater properly, particularly in the municipalities of Ferizaj/Uroševac and Mitrovicë/Mitrovica. But they recognize that Kosovo is far behind other countries.

II. Kosovo's challenges and responses to climate change and carbon footprint

Participants were also asked to describe Kosovo's challenges in relation to climate change and carbon footprint, and the responses to tackling them. This was an opportunity to discuss the measures that they themselves have taken as institutions, civil society, or a business.

Participants from central institutions highlighted the challenges stemming from poor waste management, where there is still no public recycling system. There are informal initiatives, organized by individuals and companies, but there is no national system in place to organize the whole recycling process. Participants from central institutions pointed out that Kosovo is in the process of developing a recycling programme for reimbursement for collected plastic bottles, and at the same time is in the process of setting up several centers where waste will be processed and recycled based on type. They further declared that there are many areas where Kosovo's public institutions have made progress in fighting the adverse effects of climate change and speeding up the process of decarbonization. For instance, they pointed out that one of the objectives of the Climate Change Strategy was to prepare the greenhouse gas inventory, which the GHG Kosovo Team of the Kosovo Environmental Protection Agency (KAEP) is already doing.

A representative of central institutions referred to an additional challenge in the private sector:

“A huge challenge for our ministry is the misuse of subsidies by businesses. We have subsidized many businesses with solar panels. However, when we visited them, we found out they have never been used, raising questions about the purpose and usage of those solar panels.”

Representatives of central institutions described how they are responding to climate change. They stated that their institutions are working on the many legal regulations related to climate change, decarbonization and greenhouse gas emissions. Among them is a long-term decarbonization strategy which will be a cornerstone for addressing these issues. Line ministries have also been working on the National Energy Strategy (2022-2031) which was mentioned several times as a key document but is not yet enacted. An Inter-ministerial Council on Climate Change was established on 21 August 2015, to serve as a coordinating mechanism for all activities on climate change. However, due to frequent changes in political leadership, the work of the council has not been consistently regular. The council is now fully functional and their technical secretariat has started their work supported by UNDP.

Local authorities' representatives were of the opinion that Kosovo has made some progress in fighting the effects of climate change. One highlighted the establishment of a factory in Bukosh that separates waste, with a three-million-dollar investment. Previously municipalities lacked both a financial code and a waste management plan; now, according to them, municipalities have both.

However, local authorities mentioned similar challenges to those of central authorities: pollution from energy power plants; uncontrolled construction permits; industrial waste from places such as Mitrovicë/Mitrovica, Obiliq/Obilić, Hani i Elezit/Elez Han, and Drenas/Glogovac (with Ferronikel considered as one of the largest polluters); and the poor management of forests which are being destroyed through uncontrolled exploitation and inadequate institutional protection. They also demanded more competencies and support from central institutions to develop activities aimed at combating climate change. Some local authority representatives also shared details of the steps taken at municipal level to curb climate change and attempt decarbonization. For instance, a representative of Municipality of Lipjan/Lipljane stated:

“In Lipjan, we have taken some positive steps to mitigate the effects of climate change. We are currently developing a project on waste recycling; there are more green areas and parks than there used to be in the past and a local environmental action plan is being drafted. The biggest challenge for our municipality is that Lipjan is very flat and that increases the interest of investors in the construction of various facilities, both for residential and commercial purposes, which negatively impacts the environment.”

Contrary to central and local institutions, representatives of green businesses believe that not much has been done in terms of decarbonization, river clean-up and access to safe drinking water. They believe that many lakes and rivers are being damaged even more, and that the path towards decarbonization starts by protecting lakes and rivers on a Kosovo-wide level. Coal-fired power plants were also mentioned as one of the biggest polluters and it was suggested to work towards policies that reduce the damage caused by power plants while smoothly transitioning to alternative energies. One participant raised another specific point of concern:

“Car washes in Kosovo do not have pits that filter the water, which in turn is extremely harmful because the cleaning products are acidic and they cause a lot of damage to the environment.”

Green businesses participating in focus group discussions seemed very environmentally aware and confident that they are playing their part in decarbonization and mitigation of climate change.

Their practices include using recyclable materials for all printed documents and files and replacing incandescent or halogen lighting with LED devices that serve as heaters during the

winter and air conditioners during the summer. Another participant shared in detail the sustainable business practices that their company is applying:

“There is a high level of cross-contamination in hospitals, which are the largest polluters because they do not apply quality control according to the standards. As a result, all hospital rooms are contaminated, where bacteria are easily spread. Therefore, we employ steam sterilization for the medical devices and equipment, including drugs, fluids, surgical instruments, metal containers, implantable, and reusables, all of which are 90-100% recyclable and seek to standardize hygienic services in hospitals.”

Another business builds sub-stations that help solar energy parks to distribute power across the network, while all waste is recycled or reused to minimize pollution. Those sub-stations have significantly less noise and help protect the environment. Another participant from a green business explained how they are curbing the effects of climate change:

“Solar panels will be installed in our facilities and be completed this year. As a green businesses we have proper filters in place for dust and noise which protects the environment”

Another green company stated that they are working to switch to electric cars; they already have electrical vehicle chargers. They believe that diesel cars will no longer exist in 5-10 years. The batteries in electric cars are also recyclable. However, they recognize that working toward decarbonization will be difficult because the services they provide include trucks and excavators, which are big polluters.

Businesses in other sectors are also aware of the effects of climate change. They cited frequent changes of temperature and disruption of rainfall balance as a consequence of climate change. They mentioned how climate change and air pollution have increased the incidence of respiratory and cardiovascular diseases. Participants stated their belief that in cities with heavy air pollution around 90% of children have respiratory problems.

One of the negative practices which affects climate change in the long term is also agricultural land being used for construction. Burning of coal for the production of energy is seen as the most significant polluter, but deforestation is also a serious issue, with approximately one hectare of forest a day lost to illegal logging, according to participants. One participant raised the challenge of animal slaughter due to lack of a landfill for slaughtered animals.

Businesses were also aware that, through their energy and material consumption, they pollute the environment significantly more than households.

Participants from the private sector were asked to share their thoughts on how their businesses affect the environment, and whether actions are being taken to mitigate those effects. One of them claimed that although they try to avoid using non-recyclable bags, they still harm the environment in other ways, such as producing products that contain chemicals

which are harmful to the environment. A pharmaceutical company representative said that their industry harms the environment by using plastic bags and by not disposing of expired medications properly.

NGOs, meanwhile, consider energy power plants and quarries to be among the worst polluters. An additional problem is that Kosovo does not have enough resources to use alternative sources of energy. Kosovo has a shortage of water resources and wind energy. They stated that although licensed quarries are required by law to return the site where they work to its prior state, no company does so. They also mentioned the negative effects of solid waste, such as concrete, and motor vehicle emissions.

Participants from NGOs generally think that they have done a lot in curbing the effects of climate change and protecting the environment. One NGO representative shared a specific example:

“Without us, the Kosova e Re (New Kosova) energy power plant would not have been stopped. We have also contributed a lot to the drafting of the Law on Renewable Energy, which is yet to be voted on by parliament.”

III. Stakeholders’ awareness of Kosovo and international efforts on climate change and decarbonization

Generally, participants of all focus group discussions had information about Kosovo-wide and international efforts on climate change and decarbonization. The Western Balkans region, including Kosovo, will implement the Green Agenda for the Western Balkans – a growth strategy that follows the European Green Deal and aims to accelerate transition from a traditional economic model to a sustainable economy. The Treaty on Energy Community was also mentioned, another EU initiative which gives Kosovo certain energy-related obligations. Participants from central institutions had limited knowledge of Kosovo’s obligations arising from these agreements. A participant from local institutions referred to several international agreements to improve the posture against climate change, including the long-term target to not allow global temperature increase for more than 1.5 degrees Celsius. They were aware that there are certain targets that need to be achieved, in particular related to power plants. They stated that there is a need to invest in the energy sector (investment in new power plants), because when efficiency increases the demand for production decreases.

A representative of central institutions believes that Kosovo has created a conducive business environment for investors, and so businesses – such as those for manufacturing and processing – are investing without caution and without having to respect environmental standards, all of which negatively affects the environment.

IV. What’s the way forward?

Stakeholders were aware of Kosovo’s challenges, and how much it is threatened by climate change. They were also aware of their roles and responsibilities in this field. They believe that

only with concerted effort can real solutions be achieved. Awareness raising campaigns on climate change with the aim of behavioral change is a crucial method of mitigating the risk of climate change.

Central institutions believe that one area of focus in the near future is increased public awareness about energy efficiency. They believe that more awareness-raising campaigns are needed, to include students and households. An example to this was the awareness raising campaigns in schools to educate pupils on climate change implemented in the previous decade. This is all the more important considering that there are still people, including in academia, who deny the existence of the threat of climate change. Officials from central institutions were of the opinion that climate change lessons should be integrated in the curriculum, as compulsory or elective subjects.

Businesses from various sectors also suggested more awareness-raising campaigns. Green businesses suggested that municipalities should hire experts to organize awareness-raising campaigns, because businesses cannot make drastic changes without coordination and mobilization with institutions. In terms of concrete actions to prevent environmental pollution and curb climate changes, so far, institutional efforts are limited to monitoring and reporting. For example, a representative of the Kosovo Agency for Environmental Protection believes that they have contributed to increasing public awareness on air and water quality by continuously monitoring it and reporting on the same. They also mentioned how they have placed screen monitors in Prishtina/Pristina, giving the public real-time information about air quality. Another participant felt that awareness-raising campaigns do not lead to big changes; he instead suggested subsidies for individuals and businesses as the only way to create an impact.

Despite bringing more awareness about environmental protection than in the past, institutions must employ more drastic measures to both prevent environmental pollution and simultaneously raise the awareness about environmental protection. As one of participants stated:

“We think that the police should be more serious in issuing fines to people who throw waste in places they are not supposed to; the police should not wait for the inspectorate to issue fines, because they have the power to do that.”

Central institutions further stated that Kosovo needs particular support and assistance from international organizations in the field of energy. They voiced concern about the impact of fossil fuels and how to transition to renewable energy sources. They also demanded more investments and more attention to solar energy and hydropower. Another participant suggested that cooperation with the business community on this issue should become the norm, because businesses’ interest increased when the Millennium Challenge Corporation started supporting them.

An increased budget to fund activities foreseen in the legislation and policy documents is necessary, should Kosovo aim to reach the targets set in legislation and in policy documents,

as well as targets set by the EU in the Green Deal; human capacities (knowledge, skills, experience) are another part which requires institutional attention.

Green business representatives believe that the way forward is in a different direction. They recommended study visits, knowledge exchange and skills seminars with businesses from elsewhere in Europe. Nevertheless, freedom of movement (visa restrictions) was cited as a hinderer. They also think that each municipality needs, in the near future, to have a renewable energy expert to better tackle the challenges and provide solutions. Green business representatives suggest conducting a needs assessment for municipalities, leading to the installation of either photovoltaic panels or heat pumps. One of the participants from this group shared further recommendations on how to save energy:

“We all know how much sanitary water University Clinical Center of Kosovo (UCCK) needs and they still use boilers to heat the water. Besides photovoltaic panels, thermal panels could be installed for water heating in each clinic. I also think that in Kosovo electric boilers should be banned, or high taxes should be imposed so that they are not easily affordable. We know these have had a huge impact on the recent energy crisis. Therefore, we suggest using heat pumps: compared to boilers that consume up to 22 - 23 kWh, heat pumps consume 3-4 - kWh.”

A participant from an NGO said that most lignite can be used in agriculture as organic fertilizer. He also described a project that is underway:

“Two big landfills are in development, which will treat inert waste only – the first landfills in Kosovo to do so. The whole facility will be fenced and raw materials will be accepted. All of this will be offered at a lower price than what other businesses currently offer. We will accept waste from all citizens.”

To better answer energy-related challenges, participants from NGOs recommended merging the energy market with Albania’s, because Albania is said to generate 100% of its electricity from renewable, mainly hybrid sources. Another recommendation was a carbon tax, to encourage decarbonization.

Further, one of the participants in a focus group discussion mentioned an ecological tax, which he said exists in Kosovo and citizens pay; he added, however, that there is no information on how much money has been collected from this tax and how much of it has been used for investments in environmental projects. Further, a needs assessment study to evaluate Kosovo’s capacities in water and wind resources should come before demands to ban coal. NGOs think that although a ban on burning coal could be a positive step, it might also prompt people to use more firewood and lead to further deforestation; forests are already insufficient and degraded.

Conclusions and Suggestions

This section aims to emphasize some suggestions provided by participants representing relevant stakeholders.

Overall, the public understanding of climate change is not high. Respondents generally claimed average knowledge about potential health threats caused by climate change. Awareness about the right to live in a clean and healthy environment is low. Majority of respondents have heard of climate change, and some 70% of them would support institutional assessment of the impact of climate change upon Kosovo society. From their responses, it is clear that people are not well aware of the impacts of climate change nor the science behind climate change and how it manifests in different sectors. Given that the majority of respondents prioritized waste management and waste-related environmental issues as the most serious environmental threats in the context of mitigation of environmental threats, it seems that the public is more concerned with issues that are more tangible and impact their lives directly. There was general approval on imposition of fines for littering/dumping waste and plastic bags.

Despite average awareness of climate change, the fact that people mostly hear about it through television or social media could be why they have not understood the real impacts of climate change and the most appropriate mitigation efforts. beneficial in increasing If there were more public awareness campaign, the public would be more aware of climate change impacts in different sectors and they would support more adequate mitigation efforts.

In terms of their support for the second most effective mitigation measure, reducing the use of fossil fuels, the majority of people responded positively to higher electricity tariffs if it meant climate change can be addressed. It would be interesting to re-test this point given that electricity tariffs are now increasing due to the energy crisis, regardless of energy transition or switching to renewable energy sources.

Central and local institutions' awareness and knowledge of the impact of climate change on society and public health was relatively high. Central institutions were also aware of the climate change challenges in Kosovo and the associated risks. Institutions claimed that they have made some progress in addressing climate change. However, they mentioned that sometimes budget limitations prevent meeting objectives. More investments to tackle climate change are therefore needed.

The private sector is also aware of the effects of climate change. They understand how their businesses and operations adversely affect the environment. Some of them stated that they are working to minimize pollution and that more institutional support is needed in this direction. Finally, representatives of civil society stated that they are doing their part in curbing the effects of climate change, but that more needs to be done by all stakeholders.

The findings aim to inform the development of policy initiatives and strategies, and to encourage behavioral change in the communities to better cope with climate change and minimize health risks. The results could contribute to public discussions among people,

central and local institutions, the business community and civil society organizations, which would help them better target their interventions. The following suggestions and views were shared in focus group discussions from representatives of the businesses, non-governmental organizations and public institutions.

- » More data is needed on the capacity and potential to generate energy from alternative sources such as wind. In addition to more funds, more institutional commitment in cooperating with the potential investors (private sector) on alternative resources is needed.
- » Businesses indicated that in order for them to increase their production capacities, adopt more advanced technologies and invest in solar panels, Kosovo's central institutions should provide financial support to them.
- » Businesses suggested central level institutions to change fiscal policies, raising the limit of 100 kW for electricity transfer by private producers to the network to 500 kW.
- » Electric boilers should be banned and replaced by heat pumps.
- » A needs assessment study should be conducted in municipalities, prompting the installation of photovoltaic panels or heat pumps.
- » The Law on Energy should be amended to allow more investors to invest in Kosovo.
- » Municipalities should draft strategies on Smart Cities that would offer transportation alternatives to vehicles with oil-based fuel.
- » Campaigns should be organized to increase public awareness on energy efficiency.
- » More investments and attention are needed in solar energy and water energy.
- » Kosovo needs to implement a policy to ban plastic bags or adopt a paid plastic bag use policy.
- » Central institutions should support manufacturers and stimulate businesses to protect the environment.
- » Most focus group participants mentioned thrown away expired drugs as one of the pollutants. Therefore, legal regulations that require incineration of expired drugs should be implemented strictly.
- » International organizations could support central institutions by providing more expertise on climate change.
- » There is a need for a special landfill for animal waste.
- » The state budget should be better planned and harmonized with objectives set in policy documents.
- » Knowledge and skills exchange with other European businesses should be encouraged.

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Annex I Methodology

Qualitative Methodology

A mixed methodological approach was used to conduct a Public Pulse Analysis among Kosovo's central institutions, businesses, and citizens (represented by NGOs/CSOs) to identify the particular climate change challenges that Kosovo faces, and the possibilities and initiatives for transitioning to a carbon neutral economy by decarbonization. The aim was to capture stakeholder perspectives on overcoming legal, institutional, and economic obstacles to low carbon investments, through focus group (FG) discussions complemented by the results of Public Pulse Brief XXII on climate change.

Seven (7) FG discussions were conducted:

- one (1) with central institutions and one (1) with local institutions; three (3) with businesses
- one (1) with national CSOs and one (1) with local CSOs.

IDRA, the implementing consultant, also took the following steps with the survey.

- A review was conducted of literature that might be relevant to the project, including strategies, legislation, and other key documents, and previous research on the topic in Kosovo, the region and beyond. Most of the information from the desk research is included in the final report, but it also shaped the method, sampling procedure, and most importantly the focus group questionnaires.
- Participant profiling was done through a recruitment screener. This data enabled the selection of the most suitable participants to fulfill the research objectives of each FG;
- Transcripts were prepared to help researchers gather information on the themes explored and categorize them for analytical purposes.
- The analytical report includes information from all FGs, explores the most common issues in more detail, summarizes the findings, and provides recommendations where feasible.

Recruitment screener

- Transcripts and Key Findings
- Preparation of Research Instruments
- Report on FG findings and poll data analysis
- To ensure data quality, a screening questionnaire was used for the recruitment process to identify FG participants with the right profile.

Recruitment process and consent procedures

The recruitment process started immediately after the review and finalization of the recruitment screener. Coordinators identified potential candidates and determined participants' eligibility for participating in FGs/interviews through the screeners. Completed screeners with the contact information of potential focus group participants/ interviewees went to the coordinators and the project manager for a second round of filtering. Only the most suitable candidates for participating in FG discussions/ interviews were contacted and invited to participate in the groups.

Participants/ interviewees consented to participation either via phone or email, following an invitation detailing the purpose of the FG/interview and the fact that it would be recorded for transcription and used only by IDRA's research staff. Participants signed consent forms upon arrival for the FG or when interviewers arrived. The forms can be found in the Consent Forms section.

Quantitative Methodology

The quantitative portion of the research is derived from the Public Pulse section on climate change which was conducted with the general public in Kosovo.

Weighting Population Totals

Public Pulse polls oversample minorities in order to disaggregate data by ethnicity. However, when calculating total numbers, the Public Pulse team weighted data by actual population figures. Since 2002, the following percentages for weighting the population totals have been used:

- Kosovo Albanians: 88%;
- Kosovo Serbs: 6%;
- Members of other Kosovo communities: 6%.

According to the 2011 population census and official data from the Kosovo Agency of Statistics, the current ethnic composition in Kosovo is the following:

Ethnicity	Total Population	Percentage of Total Population
Kosovo Albanian	1,616,869	92.93
Kosovo Serb	25,532	1.47
Kosovo Turk	18,738	1.08
Kosovo Bosnian	27,533	1.58
Kosovo Gorani	10,265	0.59
Kosovo Roma	8,824	0.51
Kosovo Ashkali	15,436	0.89
Kosovo Egyptian	11,524	0.66
Other, refused/NA	5,104	0.29
Total	1,739,825	100.00

If these figures were to be followed for the Public Pulse polls, weighting would be the following:

- Kosovo Albanians: 93%;
- Kosovo Serbs: 2%;

- Members of Other Kosovo Communities (Kosovo Ashkali, Kosovo Bosniaks, Kosovo Egyptians, Kosovo Gorani, Kosovo Roma, and Kosovo Turks): 4%.

