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SLACC
STOP LIES ABOUT CLIMATE CHANGE
TRANSNATIONAL RESEARCH REPORT
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Project Information

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I. Executive summary

The SLACC (**S**top **L**ies **A**bout **C**limate **C**hange) project aims to **increase critical thinking skills in young people** and provide the necessary communication skills to debunk fake news on climate change thus **equipping young people for the role of climate ambassadors**. The project partnership consists of 7 partner organizations from Austria, Bulgaria, Cyprus, France, Germany, Italy and Slovenia. To make sure that the educational needs of both target groups (young people and youth workers) are best met by the project offer, the partners conducted transnational research on the **existing approaches to climate education** and the **situation regarding fake news about climate issues** in their countries. In addition, they analyzed the **ways to improve climate education through non-formal methods** and the best **strategies to fight misinformation**.

The research shows that people in all partner countries are **aware of the seriousness that climate change and the related issues entail**. There are, however, some clearer differences, when it comes to the level of attention climate topics receive from media and national governments. The **perceived lack of enough information** is not to be underestimated, as it can lead to a lack of position among young people, which means they are potentially more **prone to the threats of misinformation campaigns**. Nevertheless, their level of awareness about the impact of climate change on their everyday lives is quite high. The general interest in the topic, especially from more active, well-educated youth is also ever-growing, which is proved by the high number of **climate awareness projects and initiatives** launched in the recent years as well as **youth organisations** committed to fight climate change. This shows **great potential in young people for becoming climate ambassadors**.

The research also shows that state and non-governmental actors are quite active in developing training materials and providing trainings on climate-related topics. As a result, **climate education seems to be mandatory part of school curricula** in almost all partner countries, albeit being rather fragmented. While **non-governmental organizations seem to be an active motor of change** everywhere, truth is that **general educational standards appear to be incomplete** and a **universal framework for education in climate change and environmental protection is still lacking.**

According to the conducted research, apart from school, the **main sources young people use to get information about climate issues are online platforms** such as social media channels and in the case of more conscious audience – foreign media websites or even climate related webpages. Offline, (a smaller portion of) young people tend to still trust TV and traditional print media. The general tendency is towards **shorter texts, video content and lesser volume of information**. However, there is **little awareness that information needs to be further checked**, that despite appearing so, **some sources might not be reliable** or that diversifying the sources adds value to forming an informed opinion on complex issues. For this reason, the most effective ways of informing and engaging young people on the topic of climate change would follow their needs and

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interests – using different games and challenges, **short informative videos**, **accessible and engaging content published on social media**, bringing the topic closer to their everyday lives through relatable examples, giving them responsibility by developing their own projects/initiatives (**learning by doing**), interactivity (**discussing rather than lecturing**). While it can be difficult for educators and youth workers to keep up with all newly emerging communication channels, it is important to use them to reach young people and speak their language. It is also important to understand the fact that **even if allowing for more fake news due to the free access and lack of control, the online platforms have contributed to developing young people's critical sense**, however fragile it may be.

The potential is there but what about the motivation and interest in becoming a climate ambassador? The research shows that young people do **care about climate change** and are **aware of the fake news** related to it, even if it can be difficult for them to orient in the available resources providing all sorts of information. According to youth, **older people are perceived to be more susceptible to fake news** due to a number of reasons: they are less familiar with social media (where fake news are mostly published) and its traps, they tend to believe more in what they find on the internet, as they do not have the same digital skills and climate education as young people, and therefore are less likely to identify fake news. So, **young people agree it is vital to educate others (and themselves) about fake news** to avoid wrong beliefs and perceptions that could be translated into harmful behaviours**.** At the same time, they also admit that **vulnerability to fake news is not about age** but other factors such as economic situation, radicalisation, and lack of critical thinking.

What one needs to understand to successfully fight misinformation, is the logic behind it – how fake news are spread and who is interested in spreading them. The report shows that **the main actors stretch beyond the traditional business and political interests** or simply conspiracy theories fans, and find more and more innovative ways to spread disinformation, shape opinions and create artificial debates in the public space. So, it is crucial to develop critical thinking skills as early as possible, to educate and sensitize society, and especially young people, that fake news exist as a part of our reality today, and that misinformation can take many forms.

But **how to recognize fake news in the vast ocean of information**? There are plenty of engaging exercises, using reverse strategies, debunking contests, internet research tasks, open discussions, interactive media literacy trainings that ideally would be adequately integrated into the formal education. In addition, there are many **online tools** that can help in the fight against misinformation and need to be promoted among young people, including **fact-checking websites** and **social media accounts** publishing synthesized and accessible scientific information, **educational podcasts**, digital tools, online courses etc. Above all, the main learning need remains **critical thinking skills**, including **developing awareness** for the problem of misinformation in a first place, followed or accompanied by developing methods to distinguish credible from fake information as well as **transversal soft skills** such as communication skills, proactivity, flexibility, perseverance - all useful on the way to becoming ambassador.

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II. Introduction

In recent years, significant progress has been made in understanding climate change, its causes and consequences. The warming of the climate system is undeniable. However, there is also a deluge of misinformation designed to confuse the public and generate doubt about the existence of climate change and especially the scope of its consequences. Politicians, scientists, and practitioners have drawn attention to the problem of **misinformation in the climate change debate**. Fake news can have a devastating effect on issues where understanding based on scientific facts is essential. As a result, public opinion is divided on fundamental issues such as man-made global warming and how dangerous exactly it is.

To counter (climate) misinformation effectively, we need an understanding of the techniques employed in spreading fake news, the sources and interests behind them, the ways young people keep themselves informed about climate issues, as well as the approaches youth workers can use to neutralise misinforming content when working with young people.

That is why the partners set out to research and analyse the overall state of climate awareness and climate education in their countries, the effective ways to improve it by sensitizing young people on such issues as well as the strategies to fight disinformation. In the research process, the partners attempted to identify the learning needs of both young people and youth workers. This will allow the partnership to create better tailored project outputs, which can really strengthen young people as potential "Climate Ambassadors" who support their parents' and grandparents' generation in debunking populist distortions about climate. Knowledge, critical thinking, and media literacy are key, which is why this report also provides a compilation of the **most popular misconceptions about climate change** and their corresponding scientific explanations, as well as a list of useful **fact-checking sources** of credible information on the topic.

The report was prepared based on an approach combining **desk research** covering the partner countries, **qualitative interviews** with selected experts and youth workers, and **focus groups** with young people. The findings of this report will serve as a basis for the development of the SLACC training materials. They are intended to ensure that the educational needs of the target groups are adequately met by the project offers to be produced further on.

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III. Findings and analysis

1. The connection between fake news and media literacy

The findings of the latest edition of the Media Literacy Index for 2021 by the European Policies Initiative (EuPI) of the Open Society Institute – Sofia show a clear **correlation between the level of media literacy of a certain society and its potential to withstand the negative impact of fake news**. The better the quality of education, the freer media and the higher the trust among people – the better chances to resist or lower the negative impact misinformation can have on public opinion. And vice versa: underperformance in media freedom and education can easily lower the potential of certain countries to deal with the effects of fake news.

The index assesses the resilience potential to fake news in **35 European countries**, using indicators for **media freedom**, **education,** and **trust in people**. As the indicators have different importance, they are assigned different weight in the model. The media freedom indicators have the highest weight (Freedom House and Reporters without Borders) along with the education indicators (PISA) with reading literacy having the highest share among them. The e-participation indicator (UN) and trust in people (Eurostat) have smaller weight relative to the other indicators.

This edition of the index comes at time of a double crises when the Covid-19 outbreak was made worse by the *infodemic* – the deluge of fake news and disinformation amid too much information about the pandemic. While the report[1] focuses on a different aspect deriving from the pandemic circumstances, it makes important recommendations regarding the fight against disinformation in general, which are perfectly applicable also to the issue of debunking climate myths. The report recommends **education as the optimal approach to tackling fake news** as a "vaccination" offering resistance against the worst cases of fake news and post-truth.

Therefore, before presenting the findings of the present report, especially considering that research was conducted in several countries, it would be useful to provide some context in the form of an **overview of the media literacy index of each of the 7 partner countries**: Austria, Bulgaria, Cyprus, France, Germany, Italy, and Slovenia. In relation to the data shown below in the graphs, it should be noted that the results for the 35 countries included in the Media literacy Index 2021 were analysed in **clusters based on the scores** obtained. The cluster analysis sorts the countries into groups, where each country is more similar in characteristics with those in its cluster than those in other clusters. The clusters are also hierarchical – from the top performers in the first cluster to the last in the fifth cluster as indicated in the following table.

[1] The full text of the report of the "Media Literacy Index 2021. Double Trouble: Resilience to Fake News at the Time of Covid-19 Infodemic" can be found here.

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The table visualizes as follows: (a) The five clusters, based on the 2021 index scores of the countries. (b) The 35 countries in the index, ranked according to their index score. The standardized scores are from 100 to 0, highest to lowest. The ranking positions are from 1 to 35, highest to lowest.

The **first cluster** is composed of a small group of six countries from Finland to the Netherlands, which are the best performers in index 2021. The **second cluster** is the biggest one with 11 out of 35 countries, starting with Belgium to Poland. The **third cluster** is composed of 9 countries out of 35 in total from Lithuania to Hungary and Cyprus. The **fourth cluster** is composed of six countries – from Greece to Montenegro. The **fifth and last cluster** is the smallest one, comprised of three countries – Albania, Bosnia and Herzegovina, and North Macedonia.

The seven partner countries partaking in the present report are circled in red on the table. The detailed results for each of them concerning all indicators are shown in the graphs below in alphabetical order.

Clusters in the Media Literacy Index 2021

Rank	Country	Score	Cluster
1	Finland	78	1
2	Denmark	73	
3	Estonia	72	
4	Sweden	72	
5	Ireland	70	
6	Netherlands	68	
7	Belgium	64	2
8	Germany	62	
9	Iceland	62	
10	UK	62	
11	Portugal	61	
12	Austria	60	
13	Luxembourg	59	
14	Slovenia	58	
15	France	57	
16	Spain	56	
17	Poland	56	
18	Lithuania	53	3
19	Czech Republic	53	
20	Latvia	52	
21	Italy	49	
22	Slovakia	45	
23	Malta	43	
24	Croatia	43	
25	Hungary	42	
26	Cyprus	42	
27	Greece	38	4
28	Romania	34	
29	Serbia	32	
30	Bulgaria	29	
31	Turkey	28	
32	Montenegro	26	
33	Albania	22	5
34	BiH	19	
35	North Macedonia	15	

Austria (Cluster 2, Ranking: 12, Score: 60)

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22
Freedom of the press (Freedom House). On a scale from 0 to 100 (best to worst)

15.78
Press Freedom Index (Reporters without Borders). On a scale from 0 to 100 (best to worst)

484
PISA score in reading literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

490
PISA score in scientific literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

499
PISA score in mathematical literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

30.1
Share of population (%) with university degree (Eurostat). In percentages from 100% to 0% (higher is better)

5.3
Trust in others (Eurostat, EQSL). On a scale from 10 to 0 (highest to lowest)

0.9762
E-participation Index (UN). On a scale from 1 to 0 (highest to lowest)

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Bulgaria (Cluster 4, Ranking: 30, Score: 29)

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42
Freedom of the press (Freedom House). On a scale from 0 to 100 (best to worst)

35.06
Press Freedom Index (Reporters without Borders). On a scale from 0 to 100 (best to worst)

420
PISA score in reading literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

424
PISA score in scientific literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

436
PISA score in mathematical literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

24.8
Share of population (%) with university degree (Eurostat). In percentages from 100% to 0% (higher is better)

4
Trust in others (Eurostat, EQSL). On a scale from 10 to 0 (highest to lowest)

0.8929
E-participation Index (UN). On a scale from 1 to 0 (highest to lowest)

Cyprus (Cluster 3, Ranking: 26, Score: 42)

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23
Freedom of the press (Freedom House). On a scale from 0 to 100 (best to worst)

20.45
Press Freedom Index (Reporters without Borders). On a scale from 0 to 100 (best to worst)

424
PISA score in reading literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

439
PISA score in scientific literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

448
PISA score in mathematical literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

39.4
Share of population (%) with university degree (Eurostat). In percentages from 100% to 0% (higher is better)

3
Trust in others (Eurostat, EQSL). On a scale from 10 to 0 (highest to lowest)

0.9524
E-participation Index (UN). On a scale from 1 to 0 (highest to lowest)

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France (Cluster 2, Ranking: 15, Score: 57)

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26
Freedom of the press (Freedom House). On a scale from 0 to 100 (best to worst)

22.92
Press Freedom Index (Reporters without Borders). On a scale from 0 to 100 (best to worst)

493
PISA score in reading literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

493
PISA score in scientific literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

495
PISA score in mathematical literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

32.8
Share of population (%) with university degree (Eurostat). In percentages from 100% to 0% (higher is better)

5.4
Trust in others (Eurostat, EQSL). On a scale from 10 to 0 (highest to lowest)

0.9048
E-participation Index (UN). On a scale from 1 to 0 (highest to lowest)

Germany (Cluster 2, Ranking: 8, Score: 62)

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20
Freedom of the press (Freedom House). On a scale from 0 to 100 (best to worst)

12.16
Press Freedom Index (Reporters without Borders). On a scale from 0 to 100 (best to worst)

498
PISA score in reading literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

503
PISA score in scientific literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

500
PISA score in mathematical literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

25.2
Share of population (%) with university degree (Eurostat). In percentages from 100% to 0% (higher is better)

5.1
Trust in others (Eurostat, EQSL). On a scale from 10 to 0 (highest to lowest)

0.75
E-participation Index (UN). On a scale from 1 to 0 (highest to lowest)

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Italy (Cluster 3, Ranking: 21, Score: 49)

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31
Freedom of the press (Freedom House). On a scale from 0 to 100 (best to worst)

23.69
Press Freedom Index (Reporters without Borders). On a scale from 0 to 100 (best to worst)

476
PISA score in reading literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

468
PISA score in scientific literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

487
PISA score in mathematical literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

17.1
Share of population (%) with university degree (Eurostat). In percentages from 100% to 0% (higher is better)

5.2
Trust in others (Eurostat, EQSL). On a scale from 10 to 0 (highest to lowest)

0.8214
E-participation Index (UN). On a scale from 1 to 0 (highest to lowest)

Slovenia (Cluster 2, Ranking: 14, Score: 58)

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23
Freedom of the press (Freedom House). On a scale from 0 to 100 (best to worst)

22.64
Press Freedom Index (Reporters without Borders). On a scale from 0 to 100 (best to worst)

495
PISA score in reading literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

507
PISA score in scientific literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

509
PISA score in mathematical literacy (OECD). The higher score the better; 500 is very good and below 300 is a very poor result

28.7
Share of population (%) with university degree (Eurostat). In percentages from 100% to 0% (higher is better)

4.8
Trust in others (Eurostat, EQSL). On a scale from 10 to 0 (highest to lowest)

0.8571
E-participation Index (UN). On a scale from 1 to 0 (highest to lowest)

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2. Overall state of climate awareness among young people in the partner countries

i. Overview

Our research shows that people in all partner countries are aware of the seriousness that climate change entails. We have established a general perception among people (both based on official data from surveys and our interviews) that **climate change is a serious problem**, even if in some countries it is not considered the biggest thread or global issue number one. There are, however, some clearer differences, when it comes to the **level of attention climate topics receive** from media and national governments. While in some countries (like Germany, Cyprus or France) climate change is in the centre of the public debate, in others (like Bulgaria, Italy and Austria) there is a perceived lack of public discussions on climate issues meant for the general public and coming from the national politicians. The **perceived lack of enough information** is not to be underestimated, as it can lead to a lack of position among young people and to them being undecided or inactive, which means they are potentially threatened by misinformation campaigns.

Nevertheless, the level of awareness young people have about the impact climate change has on their everyday lives can be considered quite high, even if not everywhere people are consciously willing or ready to take bigger steps towards a more sustainable lifestyle. The **general interest** in the topic, especially from more active, well-educated youth is also **ever-growing**. Strong evidence for this is the **many youth organisations** all over the partner countries which are committed to fight climate change and have launched a **large number of climate awareness projects** in the recent years. This gives us a reason to see a potential in young people for becoming climate ambassadors.

ii. Austria

The electoral success of the Green Party in Austria during the last election is proof that **environmental topics are seen as important by a considerable part of society**. Both government structures and NGOs are active in sensitising the society about climate topics.

According to the relevant Sinus-Milieu survey on climate crisis from 2020 of the initiative MUTTER ERDE (Mother Earth) carried out by the ORF (Austrian Broadcasting Corporation), Global 2000 and other Austrian leading environmental and nature conversation organisations, measures against the climate crisis generally find broad support among the domestic population. The survey attempts not to define social groups solely by their social position but also to include personal life orientation, which comprises values and life goals as well as attitudes towards social change. According to the survey results, **interest in climate protection is correspondingly high**, 79% of the respondents stated their interest. However, the feeling of being **well informed** lags with **only 55%** behind. This is even more true for trust in political measures.

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Particularly high interest in global warming is shown by the milieus located in the upper middle class and the upper class. "Traditionalists" and the "consumerist base" were much less likely to say they were "very" interested in climate change. The Sinus Model locates both milieus primarily in the lower middle and lower classes. At the same time, **conservative values predominate** in most of them.

According to the study, however, two groups pay even less attention to global warming - and both belong to the middle or even the upper class: the "Adaptive Pragmatists" and the "Digital Individualists". Integral likes to call these two milieus the "future milieus". The former would form the "new flexible middle", while the "digital individualists" would be the new "lifestyle avant-garde". According to the Sinus-Milieu model, what both have in common is that they hardly think in social contexts, have **little trust in the current elites** and **no concept of the future beyond their own environment**.

When it comes to **personal climate protection measures**, the longest possible use of consumer goods is at the top of the list, closely followed by the purchase of regional food. More than 70% of respondents say they have already taken steps in this direction. As many as 65% say they are cutting back on air travel. The most frequently mentioned resolution for the future, on the other hand, is to switch to green electricity. One third of all respondents intend to consider such a switch. In last place, on the other hand, is giving up the car. Only a third say they are already driving less or do not own a car at all. And half again fewer are planning such steps for the future.

Moreover, the survey reveals **discrepancies in self-perception and perception by others**. The respondents rate themselves and their environment significantly better than society as a whole with regard to climate protection.

In addition to these survey findings, it is known that Austria is committed to reduce its green gas emissions by 36% by 2030. In coming years, the focus shift to the transport and space heating sectors, so as to maximize the results from the resources invested. These two sectors have the greatest potential for savings and cuts. Nevertheless, **climate change is definitely not gathering enough attention** and should be shifted in the focus of the public eye more to ensure a general understanding.

According to our field research findings, students and young people are motivated to fight for a better future and more climate protection. They are **aware of the impact we have on the planet**, and they are the ones who are most impacted by the climate change and its consequences since they still have a long life ahead on this planet and want to think ahead about future generations. Therefore, it matters to them to act and deal with the world's limited resources in a responsible way.

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iii. Bulgaria

A Special Eurobarometer survey carried out in March/April 2021 and published in July 2021 revealed that only 5% of the respondents in Bulgaria (well below the EU average of 18%) believe that climate change is the single most serious problem facing the world. Climate change ranks sixth in Bulgaria and the proportion of respondents mentioning it is the lowest of any EU Member State, as was also the case in 2019. However, three quarters of respondents **(75% vs the EU average of 78%) think that climate change is a very serious problem**. As it seems to be the case for most respondents in the other EU member states, also in Bulgaria there is a **strong consensus that the national government is not doing enough to protect the environment** (78% compared to 75% of EU average). At the same time, it is exactly the Bulgarian government along with the business industry and the EU who are perceived as responsible for tackling climate change. A smaller proportion of respondents (21%) say they are personally responsible for it (below the EU average of 41%). Moreover, **59% respondents say they have not taken action to fight climate change in the past six months** (above the EU average of 35%). However, when asked to choose from a list of 15 possible personal actions to fight climate change, 84% of respondents in Bulgaria (still below the EU average of 96%) say at least one action applies to them, top 3 being: 1) when buying new household appliance choosing such with lower energy consumption, 2) reducing the consumption of disposable items, 3) waste reduction/separation/recycling and better home insulation to reduce energy consumption (this one lands way above the EU average – 31% vs 18%). While the impact of environmental damage on everyday life is clearly understood, only 51% see their own consumption habits as a contributing factor, and 30 % see changing these habits as a solution to the problem. (Eurobarometer, 2019). In addition, the 2019 survey lists the main topics that concern Bulgarian citizens as follows: Air pollution (61%), The Growing amount of waste (47%), **Climate change (43%),** The Pollution of water resources / soil degradation (41%).

Another survey (the European Investment Bank Climate Survey from Aug/Sep 2021) shows that the vast majority of Bulgarian people **(78%) feel that climate change has an impact on their everyday lives**. This is particularly perceived among people older than 64 (82%) and 30-64-year-old respondents (79%), while this figure decreases among 15-29-year-olds (72%). 83% believe that they are more concerned about the climate emergency than their government. As a consequence, they are **very sceptical regarding their country's capability to undergo an ambitious green transition**. Only 36% think that Bulgaria will succeed in drastically reducing its carbon emissions by 2050, as pledged in the Paris Agreement. The vast majority (64%) think that Bulgaria will fail to meet its reduced carbon emission targets. As a result, a majority (58%) of **Bulgarian people are in favour of stricter government measures towards climate protection** — similar to the ones implemented to combat the COVID-19 crisis — that would impose changes on people's behaviour. Meanwhile, **only 11% of Bulgarian people still believe that global warming is not due to human activities**.

National experts also confirm the results of these surveys to a great extent. It can be considered that climate change is recognized as important for the Bulgarian society but there is a **perceived**

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lack of information and public debate coming from the national politicians on climate issues. The results from another national survey of the European Council on Foreign relations (ECFR), conducted by Alpha Research in January 2021 also speak in favour of this. According to it, **70% of Bulgarians reckon that green measures should be a priority for the government**. Despite the great interest in the topic, three quarters of the people feel that they are **not well informed** about the Bulgarian position and would like **more public discussion** from the official authorities on what is planned. The need for further information was mentioned by **51% of Bulgarians who claim that they would engage in educational initiatives** on the topic. Moreover, this is confirmed by the 2021 Eurobarometer survey on European citizens' knowledge and attitudes towards science and technology – it shows that nearly 60% of the Bulgarians interviewed expressed interest in the topic of ecological issues including climate change. In contrast, 39% indicated that they felt **poorly informed** on the topic. According to experts, this situation can hide great risks, as "the lack of information leads to a lack of position and being undecided, one is potentially threatened by all kinds of misinformation campaigns". According to Dr. Mariya Trifonova, teaching at the Faculty of Economy of Sofia University, the low political charge of the topic (until recently) may have its advantages, as the climate scepticism is not as high in Bulgaria as it can be abroad. However, she warns further on that even if climate scepticism does not currently prevail in Bulgarian society, the **vulnerability is strong** and **the impact of misinformation messages on public attitudes is likely to increase**. Her words are based on the above-cited survey conducted by Alpha Research for the ECFR, according to which, **in Bulgaria, there is low scepticism towards climate change and related policies**. When asked if climate change is a problem, only 3% say no (compared to 7% on average in Europe). But the overall percentage of people who do not know, don't have an opinion and do not have enough information on climate issues is very high. For example, the results show a relatively high percentage of people aged between 18 and 30, who respond that they *have no idea (25%)* or *haven't heard (19%) of* the European Green Deal when asked about it.

Our findings also show that **the topic of climate change does concern these young people who are educated and actively engaged in the society** – both at school and university level. Youth workers we interviewed shared that young people in schools nowadays speak much more about climate crisis as a global event compared to older generations, who are more concerned about certain aspects of it such as air pollution or waste pollution, for example. This is certainly influenced by the **Fridays for Future strikes** and **Greta Thunberg's activity** in recent years.

The interest of young people in climate change issues is clearly visible also in the results of another survey, conducted by U-Report Bulgaria (the global platform of UNICEF) in 2021, which asked youngsters aged between 14 and 29 about the most important topics they see as priorities and what actions they think need to be taken in each field to bring about necessary change. **Climate change comes forward as one of the priorities and the greatest need young people see there is raising awareness about climate related issues,** confirming the lack of sufficient information perceived by the Bulgarian society as a whole.

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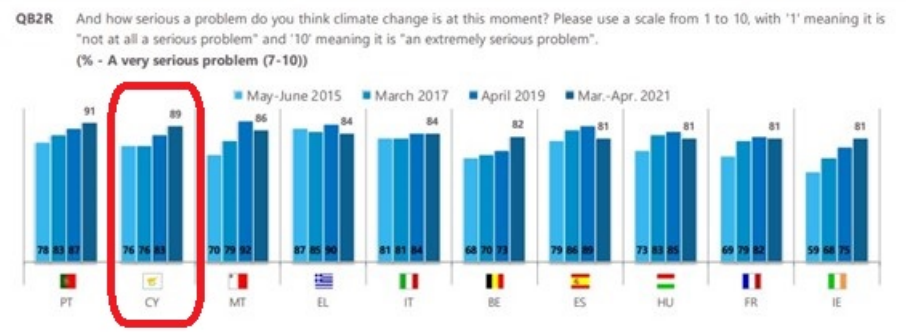
iv. Cyprus

In the latest Eurobarometer Survey about Climate Change in April 2021, approximately 1000 respondents from each EU country were asked several questions about climate change. In the first question, the respondents asked which problem they consider to be the single most serious problem facing the world as a whole (from a list of 11 problems). Nearly one in five Europeans (18% - EU average) has answered that they consider climate change as the single most serious problem facing the world. Regarding Cyprus, 11% of Cypriot respondents consider it the single most serious problem based on the survey. The most common answer for Cypriots to that question was *Poverty, hunger and lack of drinking water* with 21%. However, in the next question *(Which others do you consider serious problems?),* **42% claim that Climate Change is one of the most serious problems**, with the EU average 49%. **The percentages in youth are even higher**. In addition, the same survey has shown that 47% of the Cypriots participants have mentioned that *deterioration of nature* is also a serious problem (it was the 3rd highest percentage after Czechia and Slovakia with 50%).

Furthermore, to another question (*"How serious a problem do you think climate change is at this moment?")* **89% of Cypriot respondents say that Climate change is a very serious problem** (the 2nd highest percentage in the Survey behind Portugal as can be seen in the graph below).



From the Special Eurobarometer 513 - Climate Change – April 2021

Based on the above results of the Eurobarometer Survey, it can be said that **climate change topics are recognised as very important but not the most important problems for Cypriots**.

Since Cyprus joined the EU, many policies have been applied to improve climate awareness. These are state policies such as **environmental educational classes in schools** and private initiatives such as **environmental awareness campaigns**. In addition, there are many important universities and research institutes in Cyprus, such as the University of Cyprus, The Cyprus Institute, and the Technical University of Cyprus, where they are processing quality research on environmental topics. These institutions help raise awareness of climate topics by organising numerous events and campaigns for the general public and by **presenting scientific facts and evidence**.

Moreover, from the focus groups that we conducted with young people, it was shown clearly that **climate change topics are essential and receive high attention in the public debate**. This was also confirmed by the youth workers we interviewed, who shared that young people are generally aware

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of the high importance of climate change, since it can cost our everyday lives and access to recourses. Young people become more and more aware also of the existence of many fake news about climate change. Youth understand all the capabilities of the powerful tools called smartphones and the internet, with which they are very familiar. Nowadays, it is much easier for them to check whether a news item is fake or reliable, and crosscheck it from their home by accessing databases worldwide. An adequate proportion of the youth in Cyprus have the necessary tools and education to understand the fake vs the real news. However, that is not the holistic case and some young people still continue sharing fake news and believe in them.

Young people in Cyprus are more interested in climate topics than old generations. This is also shown in the Eurobarometer survey by the first question. One reason for this might be that climate-related problems will affect the younger and future generations. Moreover, as mentioned above, young generations are more aware of climate problems due to the introduction of environmental education in schools and because climate change is now openly discussed in public. In the last few years, there have been **many Cypriot NGO's and Institutions which contribute to informing and training the public about pro-environmental behaviours and fighting climate change**. These organisations, for the most part, are **created by young people**, showing that they have the enthusiasm and passion for environmental topics in general. To name a few of those organisations: *Friends of the Earth – Cyprus, Terra Cypria, Avli NGO*, the organisations called *100,000 trees in Paphos, 300,000 in Limassol and in Nicosia, Save Akamas, Friends of Akamas* and many more.

Below can be found some photos from the latest demonstrations about saving Akamas National park and the Climate March in 2021. Note: The photos are publicly available on the organisation's Facebook page.

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v. France

Climate topics in France have **only recently become part of the public debate**, even if more in terms of carbon emissions reduction.

Young people are generally very interested in climate issues, and they all feel they need to act collectively to change the narrative. **Young people are more likely to change their daily habits** and their general behaviour toward environmental issues they are aware of. Currently, **young entrepreneurs are leading projects** that aim at creating a positive impact and preserving the current eco system or bring eco solutions to daily habits. Those entrepreneurs get a lot of followers from people who are interested in those topics and will be more likely to share that kind of content on their social media accounts. These kinds of initiatives as well as **social media accounts run by activists and journalists** attract a lot of the young people aged 18-30.

Nevertheless, this multiplication of subjective sources easily accessible to young people only adds to the confusion on this very technical subject. This is particularly true of **YouTube channels**, which three quarters of young people say they watch regularly to get information on scientific subjects, or social networks[2]. On this type of platform, the reliability of the information disseminated is very variable.

A recent study shows that **young people have very little knowledge of the vocabulary related to climate change**, which does not allow them to take ownership of the subject and to get information from reliable scientific sources. If 55% declare that they do not know much about it, this does not allow them to detect false information[3]. According to an IPSOS's study, published in November 2021, *47% of young people aged 18-35 think that the reality of global warming has not been scientifically proven*[4]. And *55% say they are not familiar with the meaning of the term "ecological footprint"*[5] (see graph below).

[2] Mercier, E. and Quétier-Parent, S. (2021, November 17) IPSOS *79% des jeunes se disent intéressés par la thématique du réchauffement climatique,* IPSOS : https://www.ipsos.com/fr-fr/79-des-jeunes-se-disent-interesses-par-la-thematique-du-rechauffement-climatique

[3] Ibid

[4] Ibid

[5] Ibid

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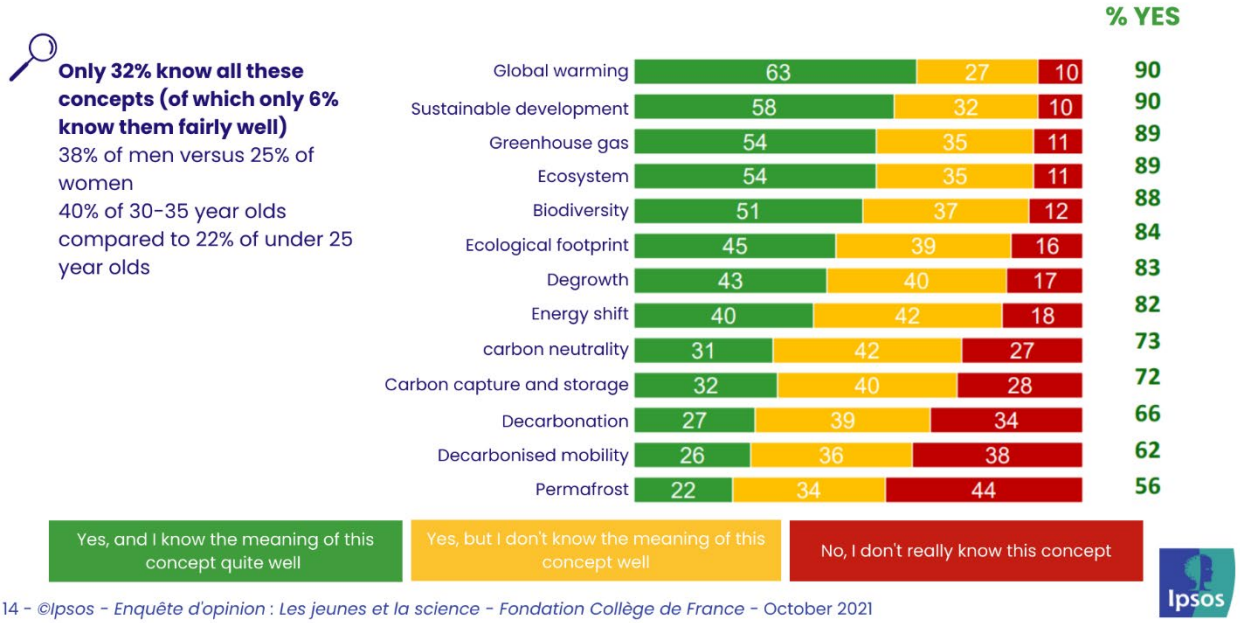
Question : Do you know each of the followings terms or concepts ?
(base : the whole sample)



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Despite this limited knowledge on the subject, **44% cite global warming as one of their main concerns** (ahead of purchasing power: 41%)[6]. **Eco-anxiety** is also a disorder shared by many of the respondents[7]. However, 69% of young people aged 18-30, interviewed by Harris, indicate that they would be willing to change their job to one that is ecologically useful, and nearly 2/3 of high school and college students would be willing to change or extend their education to learn about environmental issues and/or an ecologically useful job[8].

To call on the government to take responsibility and actions, various NGOs (mainly Youth for Climate, Greenpeace, or Réseau Action Climat) have launched several calls to young people to join their marches. Named "**march for climate**" or "**for future**", the last one has taken place right before the presidential elections, in March 2022 and has gathered more than 80 000 people (according to the organizers)[9].

[6] Ibid
[7] Ibid
[8] Bartoli, PH ., Gautier, A. and Lévy, JD. (2022, March). Les jeunes et la prise en compte des enjeux environnementaux dans le monde du travail, *Harris Interactive* : https://harris-interactive.fr/opinion_polls/les-jeunes-et-la-prise-en-compte-des-enjeux-environnementaux-dans-le-monde-du-travail/
[9] Ouest-France (2022, March 12), Climat. Des marches dans toute la France pour que l'urgence climatique pèse dans la présidentielle, *ouest-france.fr* : https://www.ouest-france.fr/environnement/climat/on-en-parle-quand-manifestations-pour-que-le-climat-pese-dans-la-presidentielle-ef8ab604-a22b-11ec-bb0f-0dc7a278b91d#:~:text=Au%20total%2C%20135%20marches%20ont,dont%2011%20000%20%C3%A0%20Paris.

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vi. Germany

"Over the past six decades, nature, the environment, and scientific findings on the connection between environmental damage and climate change have attracted growing public interest. Civil society initiatives, the environmental movement, environmental associations and most recently "Fridays for Future" mobilized the (international) political level with their commitment [...] Climate policy in the narrower sense emerged at the beginning of the 1990s. Since then, public awareness of man-made climate change and its risks, for example in the form of global warming and the increase in extreme weather events, has risen sharply."[10]

As can be seen from the quote above, **climate topics are a central issue in public debates and politics in Germany**. The German government is pursuing a comprehensive canon of climate protection goals that have far-reaching effects on society. **Questions of a fair approach to climate protection targets are becoming increasingly important**: How, for example, can the costs and benefits associated with the restructuring of the energy system be distributed fairly? What burdens and relief will fall on private households in Germany? What form can socially just sustainability take that ensures that the burdens do not hit those population groups that can least afford them?

In order to improve the state of climate awareness of the general population, that is, across all groups of society, a **large number of projects were launched** (see more in Section II of this report). They are financed e.g. by the Ministry of Environment or by public and private foundations. Another player are organisations such as *"Arbeitsgemeinschaft Natur- und Umweltbildung"* (ANU), "*Deutsche Bundesstiftung Umwelt*"(DBU), *"BNE-Portal des Bundesministeriums für Bildung und Forschung*", to name a few.

Initiatives and research show, that there has been a **change of paradigm** recently. For many years, **environmental protection has been meant for the upper and more advantaged classes**. This is now on its way to change. Research shows that socio-economically disadvantaged members of society do in fact also care a lot for our climate. They only use a different language, and this "group" is very heterogeneous. As a consequence, strategies and methods have to be developed addressing all groups of society, also creating some **low threshold offers**. The **keyword here is participation**.

The interviewees aged 20+ we contacted also acknowledge that climate is an issue in public debates in Germany. However, they complain that **politicians often put on blinders** because it is inconvenient, uncomfortable, or incompatible with their position to address this issue more strongly. The young respondents believe that the seriousness of the issue is often not well enough understood in politics. Their perception is that **the climate issue is discussed from time to time but is not consistently present**. Some feel that Germany has not found an appropriate level of dealing with it, and that there is a high level of tension between **too much ignorance** on the one hand, and

[10] Source:https://www.bpb.de/shop/zeitschriften/izpb/klima-347/336233/klimapolitik-in-der-oeffentlichen-diskussion/

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too much emotional confrontation on the other. They want a **peaceful, constructive debate** without extremes.

Fridays for Future, which stands for an active, climate-aware youth, has rapidly developed into a professional movement in this country as well. As the German FFF-homepage states: *"The climate crisis is a real threat to human civilization - addressing the climate crisis is the main task of the 21st century. We call for a policy that lives up to this task."*

Fridays for Future has ceased to be just a protesting "students' movement". The young climate activists are now **very well informed**, they are connected in the professional world and back up their demands with **proven scientific studies**. Based on that, they have become a driving source and a clear voice in society: *"After months of intensive collaboration with numerous scientists, we presented our concrete demands to politicians in April 2019. Following these demands is necessary to meet the goals of the Paris Climate Agreement and to limit global warming to below 1.5° Celsius."*[11]. Local and regional groups throughout the country make it possible to join the movement and become **active in all of Germany's major centres**.

This shows that **young people in Germany are very much interested in climate topics**. Many are very well aware that the future of our planet and their personal future are at stake. They ask themselves: What will my life be like in 40 years' time if nothing changes in people's environmental behaviour? What can we do in our everyday lives to combat climate change? What climate-friendly technologies do we need, and who can develop them?

However, some of them also think that **the state and the politicians must act first**. Few say they are not interested in climate change. According to our findings, **the generation between 20-30 years would be most suited to become climate ambassadors**. They are interested in climate topics, and also have the reflection skills some of the younger ones still lack.

vii. Italy

Worldwide, as well as in Italy, the issue of climate change is becoming more and more relevant both in the public debate and in the entire media programming.

According to the Eurispes Italia 2020 report, the **Italian population recognizes climate change as a problem** while a third of the sample interviewed is unwilling to change habits, does not believe that changing habits can be useful, or believes that the problem is too big to be solved through the behaviour of individuals. On the other hand, more than a third of Italians (34.7%) are **willing to reduce daily consumption to limit global warming** (in 2018 they were 23%). Another third (33.2%) believes it can be useful only if the majority of the population do it every day (41.1% in 2018).

Italian public opinion does not seem to be very united on the issue of climate change. This also derives from the importance with which politicians or programs broadcast on national TV channels

[11] Source: https://fridaysforfuture.de/forderungen/

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and deal with it. There is **too little talk about it** and there is a **tendency to give space to less important issues** that provoke the audience more.

When it comes to climate awareness, it should be noted that the efforts and outreach of several civil society organizations play a huge part in informing a decent chunk of the Italian society about the topic. The third sector (non-governmental) is very active in **organizing activities that aim to increase awareness of climate change**: Greenpeace, FAI, WWF, Legambiente, CAI, and many other associations operating at a national level, contribute to filling the information gap with respect to this issue. Since its birth, Legambiente alone now counts for more than **115 thousand members and active supporters** as well as 18 regional offices throughout the Italian territory. Legambiente has more than 28 currently active campaigns on climate change and environmental protection including the **"treno verde" (green train) initiative**, a public engagement campaign with which a train travels across the Italian railway system to visit all major Italian cities throughout the year, hosting installations and educational/awareness raising material on climate change, sustainability and innovative ways to reduce environmental footprint and CO2 emissions. This campaign has been running for 32 years (albeit interrupted during the Covid-19 pandemic), each year with a different focus without losing steam. The 2020 theme was "Change climate change".

In general, young people in Italy think that climate change is an important issue and perceive it as relevant, but in practice, they are not very interested in the topic. They are **not well informed** on this subject even if they are in any case reached by information in a more massive way than a few years ago: many movements for the climate have been founded and **awareness among people is constantly growing**.

Young activists are certainly the category of people who most suitable to become climate ambassadors. They, most of all society groups, could contribute to spreading truthful information since they are already part of the world of volunteering and the third sector. They are those who **actively organize demonstrations and participate in events**. **Fridays for Future** movement, for instance, is known worldwide, and it could be a good starting point to link the environmental young activists with the topic of fake news about climate change.

viii. Slovenia

The results of a survey, which was conducted in connection with the #Climateofchange campaign among young people (aged 15 to 35) in 23 European countries, including Slovenia says that **young people in Slovenia are less worried about climate change than their European peers**: 36% of them are very or extremely worried about climate change, compared to 46% of young Europeans. **Young people in Slovenia believe that "climate change only" is the third most serious problem facing the world** (climate change ranks first among young Europeans on average), after environmental degradation and poverty and hunger. Young people in Slovenia are critical of the economic model of our society: 83% of them believe that consumer habits are not sustainable enough if we want to

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preserve the environment, while 74% of them are convinced that the economy benefits especially the rich and influential. They strongly support government measures that address climate change: 78% of young people in Slovenia believe that if government plans do not address pollution and climate change, it means that politicians are not ready to listen to ordinary people, while 69% of them think, that it would harm the economy if the government did not act. Half of young people in Slovenia (50%) believe that **both rich and poor countries should bear responsibility for reducing the consequences of climate change**. The awareness of young people in Slovenia about climate migration seems to be low - 75% of them have heard little or nothing about the term "climate migrants". At the same time, half of young people in Slovenia (51%) agree with the statement that climate migrants should enjoy the same legal protection as people fleeing war or persecution. **Young people in Slovenia are relatively unprepared to adapt their lifestyles**, but 71% of them say that they have voted or would vote for policies that prioritize addressing climate change, migration, and climate migration.

A Special Eurobarometer survey on climate change, which was carried out in March/April 2021 and published on 5th of July 2021 revealed that **91% of young people** aged 15-24 believe that **tackling climate change can help improve their health and well-being**, while 84% of those aged 55 and over agree. The claim was supported by 90% of all respondents in Slovenia (87% of all respondents in the EU). On the other hand, just over one in ten respondents in Slovenia (11%, compared with the EU average of 18%) see climate change as the single most serious problem facing the world. Climate change is ranked fifth in this survey, down three places from its position as second most mentioned problem in 2019. Nevertheless, **over three quarters of respondents (77%, similar to the EU average of 78%) consider climate change to be a very serious problem**. More than six in ten respondents in Slovenia say business and industry (62%, compared with the EU average of 58%) are responsible for tackling climate change, largely ahead of any other actor. On the other hand, respondents in Slovenia are considerably less likely than the EU average (24%, compared with 41%) to say they are personally responsible for tackling climate change. However, three quarters of respondents (75%, above the EU average of 64%) say they have taken action to fight climate change in the past six months, and this proportion rises to almost all respondents (99%, compared with the EU average of 96%) when asked to choose from a list of 15 possible actions to fight climate change. Overall, **respondents in Slovenia are more likely than the EU average to have taken most of the 15 listed actions to fight climate change**, in particular, buying and eating more organic food (49%, compared with 32% in the EU as a whole) and saying lower energy consumption is an important factor in their choice when buying a new household appliance (57% vs the EU average of 42%). Over eight in ten respondents in Slovenia agree that tackling climate change and environmental issues should be a priority to improve public health (86%, similar to the EU average of 87%) and that the cost of damage due to climate change is much higher than the investment needed for a green transition (84%, above the EU average of 74%). More than nine in ten respondents in Slovenia think it is important that both their national government (92% vs the EU average of 88%) and the European Union (93% vs the EU average of 87%) set ambitious targets to increase the amount of renewable energy used by

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2030. Similarly, more than eight in ten respondents in Slovenia agree that the EU economy should be climate-neutral by 2050 (89%, similar to the EU average of 90%) and think that the money from the economic recovery plan should mainly be invested in the new green economy (85%, above the EU average of 75%).

Picture from Sep 2019, when more than a thousand young people gathered in Ljubljana in front of the Parliament for the Climate Strike

Our study showed youth in Slovenia are more and more aware of climate change: they read, educate themselves and connect with a wide variety of groups and organizations to get involved in different actions and campaigns aiming at raising awareness of climate change, to put it on different agendas and make real change. In Slovenia, there are a lot of NGOs (Umanotera, Fokus, Zagovorniki okolja etc.) and self-organized groups (as Youth for Climate Justice), which are active in the field of climate change. Though organizing reading groups, lectures, and workshops to actions in public space, cultural interventions, and protests, they demand measures, propose concrete solutions, and gradually build a better future for everyone.

3. Overall state of climate education and its main champions in the partner countries

i. Overview

Our desk research shows that state and non-governmental actors in most partner countries are active in developing training materials and providing trainings on climate-related topics. As a result, **climate education seems to be mandatory part of school curricula in almost all partner countries, albeit being rather fragmented** (integrated in certain school subjects, especially when speaking about pre-higher education level). Even in those partner countries where the topic is gaining more and more importance at national state level, general educational standards appear to be incomplete. At most places, a **universal framework for education in climate change and environmental protection, integrating these topics as a fixed component in the school curricula is still lacking.**

It is **the non-governmental organizations** in most partner countries which serve as an **active motor of change** when it comes to climate awareness and education. They develop a huge number of projects focusing on climate and sustainability issues but in some countries most of these projects

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target separate groups (such as youth or teachers/trainers), rather than wider society. This makes it safe to say that a lot more can be done for the (formal) climate education in all partner countries.

ii. Austria

In Austria there are some initiatives to provide teaching materials for educators. Agencies like the Federal Ministry for the Environment but also teacher collaborations prepare these topics in an age-appropriate way. For this purpose, they create texts, but also interactive work materials such as quizzes, exercises or creative work available.

The **Federal Ministry for Education, Science and Research** is responsible for accommodating environmental education within the school system. Since 1979 environmental education has also included as a teaching principle in the Austrian school system by following the **interdisciplinary interaction of several subjects**. Environmental education wants to create awareness of the limitations of our livelihoods, to promote readiness and competence to actively shape the environment. In 2014, the then Federal Ministry of Education and Women's Affairs published the "Basic Decree on Environmental Education for Sustainable Development".

The **Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology** coordinates the different actors working to preserve the climate and contains a large collection of links and resources on their website. Some of the most active actors, playing a role in the climate education in the country are described in the next paragraphs.

klimaaktiv is an initiative of the ministry that complements the climate protection subsidies and regulations with the development and provision of quality standards, the training and further education of professionals, advice, information and a large partner network.

Klimabündnis Österreich is part of a global partnership for the protection of the climate aimed at reducing greenhouse gas emissions and preserving of the Amazon rainforest.

https://www.umweltbildung.at/ develop and offer suitable educational formats that help to convey topics such as global sustainability goals or climate protection. They work in cooperation with experts from educational organizations, administration, NGOs, extracurricular youth education institutions and the media.

ÖKOLOG is the largest network for schools and the environment in Austria. The aim of the program is sustainable ecological and social school development that sets an example for the school environment.

WWF Austria, as other national WWF branches, is also active in the field of climate education.

Wir Leben Nachhaltig is a service ran by the Energy and Environment Agency of Lower Austria. It aims to offer citizens accessible information on how they can lead a more sustainable life.

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The Association of Austrian adult education centres (VHS - "Volkshochschulen") offers a wide range of opportunities for further education in environmental protection and sustainability. The VHS are adult education institutions that provide educational opportunities through public offers of organised learning, and professionally initiate, support and accompany educational processes. Whether do-it-yourself workshops, lectures on climate change or film screenings on the throwaway society - the Austrian Adult Education Centres offer various opportunities for people who want to build up on their education with regard to sustainability and environmental protection. The VHS offers are subsidised, but not free of charge. Some examples: new ways of beekeeping, building insect hotels, production of beeswax cloths as an environmentally friendly alternative to cling film and aluminium foil, green cosmetics, mobility alternatives incl. test drives, climate in the Alps and changes triggered by climate change (lecture by meteorologists), critical approach to consumption, herb walks, film presentation on the throwaway society, film presentation on the topic of "Hunger, Power and Profits".

iii. Bulgaria

Currently there is **no universal framework for education in climate change and environmental protection in Bulgaria**. At the present stage, only a few separate lessons exist in the compulsory school curriculum. In that aspect, Bulgaria is comparable to the neighbouring Balkan countries, having been ignoring the topics of climate change for decades at the level of public education.

Recently, steps have been made in direction of **increasing the academic capacity of Bulgarian teachers on climate topics** in view of integrating a standardized climate education in the compulsory school curriculum. This project for instance, running in 2018-2021 and funded by The European Climate Initiative (EUKI), aimed at institutionalizing a permanent interdisciplinary teachers' training programme on climate action and energy efficiency in public schools. A special training programme for teachers and **educational materials meant for students in pre-school and elementary school** level were created to be adopted by the Bulgarian Ministry of Education in the long run. The goal was to integrate climate education in different relevant school subjects and pilot this concept in 40 beneficiary schools and 10 kindergartens in at least 10 different municipalities in Bulgaria aiming to reach about 2000 students. However, **no centralized measures have been yet adopted at national state level towards sustainable integration of standardized climate education in the compulsory school curriculum** and the process is far from finalised.

Universities are a bit ahead of the curve, as they are more flexible in their approach. Most universities adapt separate courses related to climate within other programmes of theirs. There are also some **relevant master's degree programmes** in Sofia University such as *Climate change and Water Management*; *Ecology*; *Environmental protection*, as well as plans to create a programme on *Climate management* in the New Bulgarian University. In addition to this, several climate-centred initiatives took place within the framework of the Master's programme "*Energy Markets and*

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Services" of the Faculty of Economics and Business Administration (FEBA) of Sofia University: the international online course on "Climate Change and Energy Transition" (2021) and the online Second Winter School "Energy and Climate" (2022), supported by leading companies in the energy sector.

The NGO sector, on the other hand, is an active motor of change when it comes to climate awareness. In the last five years many more organisations got involved with the topics of climate, as funding has increased dramatically. Not all society groups can be reached within their scope, as NGOs target mostly young people through the methods of non-formal education. Indeed, **the majority of existing projects target the education of youth** at the school and university level, but there are some actors – all of them in the NGO sector – who organise trainings and awareness raising campaigns targeted at the wider society (an overview of some of them follows below).
The **Bulgaria Climate Coalition** is an informal platform established in 2005 comprising non-governmental organisations, companies, individual members and people active in the area of mitigating or preventing anthropogenic climate change around the world. The Coalition conducts advocacy and public awareness campaigns in Bulgaria on issues related to climate change and takes part in international events, campaigns, and initiatives.

The Environmental Association **Za Zemiata** (For the Earth) organizes a number of campaigns and projects focusing on specific areas of environmental protection and restoration: zero waste, air pollution, economical justice, energy and climate, food and agriculture. For the Earth organizes environmental campaigns and actions, issues a series of scientific publications presenting in understandable language the impact of air quality on various aspects of our lives. They also conduct trainings on climate topics such as the ClimAlt online course for young people and the open e-learning platform for trainers and youth workers.

In 2020, **WWF Bulgaria** created a new department - "Education, Innovation and Youth Engagement", with the focus on training and empowerment of young people (aged 15-29) to become advocates for sustainable development of Bulgaria and to seek innovative solutions to environmental challenges in cooperation with representatives of the state institutions, scientific, business and NGO circles in Bulgaria. At present, WWF Bulgaria is taking part in the international Climate Heroes project, aiming at training and turning young people aged between 15 and 29 into ambassadors by creating climate related video content on YouTube. WWF also have 5 educational clips on Ucha.se – the most popular educational online platform with video lessons, used by teachers from more than 2600 schools all over the country.

Greenpeace Bulgaria organise public awareness actions and draft proposals for legislative changes (most recently ones related to generating energy from renewable sources). Their recent activities involve awareness raising on plastic and air pollution – a 2-metre installation of plastic waste was put in front of the Ministry of Environment, and a paperweight filled with polluted air was presented

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to the mayor of Sofia together with a petition by 5 000 citizens to improve the air quality in the capital.

Climateka.bg is an open knowledge platform, established in 2020 and funded by the European Climate Foundation that aims to make climate science accessible to all. Its main goal is to use the knowledge and analytical skills of their authors (climate scientists) to provide facts and analysis related to climate, as well as to explain climate change and its consequences in a simple and understandable way. Within its mission to improve the information environment in Bulgaria by becoming a credible source of information on climate change, Climateka has a specific section devoted to debunking popular climate myths.

In addition, there are **numerous organisations with a narrower focus of activities**, such as "Veloevolution" promoting the use of bicycles as a mode of urban transportation and "Zero Waste" advocating for a lifestyle producing less waste, to name a couple.

iv. Cyprus

Based on our findings, **climate education in Cyprus is satisfactory** compared to other EU countries. However, there is still a long way to go through.

There are **several environmental educational programs and courses from primary schools to university levels** on the positives. For example, the **"Tiganokinisi"** programme is an educational environmental program, focusing on the collection and recycling of used cooking oil. Tiganokinisi' is run by the Ministry of Education and Culture in cooperation with the Pedagogical Institute of Cyprus and the non-government Organization AKTI – Project and Research Center. The programme is applied in more than 455 education units (primary and secondary schools) all over Cyprus. Through this programme students learn how used oil can be transformed into biodiesel, and **schools gain resources for environmental education and support of their environmental infrastructure**, for the benefit of students all over the country. At the same time, the programme promotes green jobs and recruits young, unemployed scientists.

As far as universities are concerned, there are different programs and courses offered by the 2 biggest Universities of the country: the University of Cyprus and the Technological University of Cyprus (TEPAK). In addition, the Cyprus Institute has a big and advanced **Research department in environmental topics**. The private universities such as University of Nicosia, and European University of Cyprus have also several departments in environmental topics.

The **NGO sector** also has a big influence when it comes to environmental education. There are several organisations and initiatives that play a significant role in the environmental education of the country such as Avli, Akti, Friends of the Earth Cyprus, Save Akamas Initiative, Terra Cypria, Birdlife Cyprus and Cyprus Energy Agency.

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Moreover, there are **many campaigns from the state and the private sector** to increase climate change awareness and education. From what we have seen, the younger generations are more sensitive to climate change topics and more aware of environmental issues. In addition, younger generations are more willing to take action towards combating climate change.

v. France

In response to the new international and European political agenda on climate, and the rise of awareness of the citizens about global warming, the French government has set up a **citizens' climate convention**, the *Convention citoyenne pour le climat*. Constituted in 2019, this assembly of French citizens led to the creation of the **climate and resilience law**, one of the objectives of which is to **strengthen the place of education for sustainable development in the education code**. It states that "environmental education is provided throughout school education, in a manner adapted to each level and each specialization, in order to develop the scientific knowledge and skills of students to enable them to master these issues, particularly those relating to climate change and the preservation of biodiversity, in order to prepare them to exercise their responsibility as citizens"[12].

The aim is to better inform citizens, notably by affirming the fundamental role of education for sustainable development from primary to high school. A dedicated committee in each school will program environmental awareness activities, which will reinforce the projects of the eco-delegates and nature outings, for example. As part of the generalization of "education for sustainable development", to fight against climate change and to meet the objectives of sustainable development of the United Nations, the Ministry of Education regularly organizes the "**climate week**". This week of awareness seeks to promote, in the different French school academies, the debates and ideas around sustainable development.

Despite these various institutional tools trying to be efficient on the educational ground, there is still a **lack of efficient measures at the educational level**. To try to fill this gap, the City of Paris opened in 2021 the Climate Academy, a place open to people from 9 to 25 years old[13]. It offers several free courses and formations, raising awareness and guiding young people towards the jobs of the ecological transition.

[12] Law "Climat et Résilience » (2022, January), République Française, *écologie.gouv.fr* : https://www.ecologie.gouv.fr/suivi-convention-citoyenne-climat/les-mesures-pour-le-climat/consommer/article/modifier-le-code-de-l-education-pour-une-generalisation-de-l-education-a-l

[13] Lacroux, M. (2002, January 22), "Pédagogie Education à l'environnement: «Il y a une énorme attente de la communauté enseignante et des enfants»", *Libération.fr* : https://www.liberation.fr/environnement/climat/education-a-lenvironnement-il-y-a-une-enorme-attente-de-la-communaute-enseignante-et-des-enfants-20220122_MAIE63OJINFGFMCDMOR2FRPUBY/

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The creation of the Office for Climate Education in Paris by a French NGO in 2018 also reveals this ambition to support educational institutions on the mission of climate change education. The OCE, whose president is Eric Guilyardi, climate scientist and lead author of the IPCC, aims to drive international cooperation between scientific bodies, NGOs and educational institutions in order to provide education and understanding to young people about climate change and give them the tools to protect the next generations from it. In 2020, UNESCO signed an agreement with the French Ministry of Education to make the OCE a UNESCO category 2 center[14].

But it is also a **will coming from the universities and schools in higher education** to provide trainings tackling this stake. Indeed, some schools (ESCP, ESSEC, Kedge, MinesParitsech, Sciences Po) have also set up a 3-hour workshop, called "the climate fresco", to understand the causes and consequences of climate change on a scientific basis (the IPCC report)[15]. This workshop is also open to companies.

However, in 2019, the Shift Project denounced a lack of mandatory courses in higher education on this subject. Only 11% understand climate-energy issues, offered by schools such as Sciences Po, ESJ in Lille or the University of Paris-Dauphine[16], studies that are accessible only at a certain level of education for young people. Education on climate issues could also be done through informal education premiums, open to all. Some *BTS* and *DUT* (specialising studies lasting 2 years in France) take up these issues to raise awareness among their students in the agricultural, technical, environmental and hygiene fields[17].

Jean Jouzel, climatologist and vice-president of the IPCC, confirmed this in his report submitted in 2022 to the Minister of Higher Education. Entitled "Raising awareness and providing training on the challenges of the ecological transition and sustainable development in higher education", this report proposes action levers to raise awareness of these issues among all students in higher education as uniformly as possible and to optimize and coordinate the training of students who need to develop a proven competence in these areas and the emergence of **specific lifelong learning opportunities**[18].

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[14] Definition by the UNESCO : "Category 2 centres and institutes contribute to the execution of UNESCO's programme through capacity building; the exchange of information in a particular discipline; theoretical and experimental research; and advanced training. They are under the auspices of UNESCO but are not legally part of the Organization; they are associated with it through formal arrangements approved by the General Conference."

[15] Unknown (unknown), « Dans la transition écologique : quelles formations pour quels métiers? », *passeursdavenir.fr* : Dans la transition écologique : quelles formations pour quels métiers? - Passeurs d'avenir - Au cœur des transitions - MCC (passeursdavenir.fr)

[16] The Shift Project (2019). *MOBILISER L'ENSEIGNEMENT SUPÉRIEUR POUR LE CLIMAT FORMER LES ÉTUDIANTS POUR DÉCARBONER LA SOCIÉTÉ*, p. 40 - 46 : https://theshiftproject.org/wp-content/uploads/2019/04/Rapport_ClimatSup_TheShiftProject-2019.pdf

[17] *Études : Environnement* (unknown). L'Etudiant. Accessed on the 21st of June 2022 : https://www.letudiant.fr/etudes/secteurs/biologie-environnement_7.html

[18] Ministère de l'Enseignement supérieur et de la recherche (2002, february 18). *Remise du rapport "Sensibiliser et former aux enjeux de la transition écologique et du développement durable dans l'enseignement supérieur" de Jean*

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vi. Germany

The topic of climate education is high on the agenda in Germany. In 2008, the Federal Environment Ministry launched the National Climate Initiative (NCI) that funded a broad spectrum of projects and actions. In addition, Germany has committed itself to the UN Sustainable Development Goals (SDGs) and has adopted the 2030 Agenda. **Education for sustainable development** (ESD) was included as a cross-cutting issue in the German Sustainability Strategy and in the sustainability strategies of the Länder.

Under the Climate Action Programme 2030 (adopted in Oct. 2019) and the new Climate Action Act (*Klimaschutzgesetz*) the German government has made a binding undertaking to reduce greenhouse gas emissions by 55% by 2030. This means that climate protection is politically desired and promoted. Climate education is a component of this - e.g. **8% of the climate-action projects funded by the NCI went into education**. However, **there is a lack of climate education**. This is especially true for schools, which guarantee the participation of all social groups. Despite the threat to human life: Climate education plays only a minimal role in educational institutions in countries like Germany and other G20 countries. [19]

The search for educational resources has shown that there are mainly learning and teaching materials for schools. The abundance of materials also indicates that **the topic is not yet integrated as a fixed component in the curriculum everywhere**. This is also confirmed by statements in various articles in national newspapers and other media. According to these, there are still **no uniform standards for climate education in schools**. In some subjects, such as geography, climate change is, according to some, anchored in the more recent education curricula. However, there are no uniform standards on how intensively the climate change and other sustainability topics are taught in class. In order to create incentives, schools that withstand a strict selection process and qualify for this through certain criteria are allowed to call themselves "**environmental schools**" ("*Umweltschule*"). There are a large number of **extracurricular actors** who pursue the topic of climate change and sustainable development. For example, there are further training courses for pedagogical staff in kindergardens, school teachers as well as trainers from adult education.

The "*Arbeitsgemeinschaft Natur und Umweltbildung*", **Association for Nature and Environmental Education** (ANU), is the umbrella and professional association of meanwhile approx. 1300 environmental centres, initiatives, freelancers/self-employed persons and other individuals who are active in extracurricular environmental education. ANU expands the competences of its members through further training, guidance and conferences. With its projects, it promotes education for sustainable development in extracurricular environmental education.

Jouzel. Gouvernement de la République française. https://www.enseignementsup-recherche.gouv.fr/fr/remise-du-rapport-sensibiliser-et-former-aux-enjeux-de-la-transition-ecologique-et-du-developpement-83903

[19] Source: https://www.fes.de/themenportal-bildung-arbeit-digitalisierung/bildung/artikelseite bildungsblog/klimabildung-in-zeiten-der-krise

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vii. Italy

The majority of work in terms of raising awareness of climate change in Italy is carried out mostly by **schools, universities, and the third (non-governmental) sector**. Moreover, since 2019 climate education in Italy has become a **mandatory study subject for all school levels** of education (from elementary to high school).

When speaking about compulsory education, the civic education class is certainly a very useful tool for touching on some transversal issues such as climate change. In addition, the Italian Minister of Ecological Transition, Roberto Cingolani, stated: *"Working on climate change requires a great sense of solidarity and that we must start engaging on these issues starting from education and teachers".*

In spite of this, so far climate and environmental education has been **mostly related to a university level** study subjects (engineering, architecture, biology, chemistry, geology etc.) All these and several other scientific university curricula include environmental knowledge in a rather well-structured way. However, **mainstream education and lifelong learning initiatives on climate education are scarce**, and often connected with the efforts of civil society organizations and other morally driven associations.

For instance, the public figure (and meteorologist) Luca Mercalli uses his TV programme and social media accounts to educate people on climate change with rather **simple and compelling messages**, often including focus on particularly transversal topics such as food, safety, travel, leisure time activities. This makes the content more compelling to younger audiences and easily understandable by the viewer.

More and more organizations are designing trainings on climate change for teachers and trainers. In this context, the **Italian Climate Network** in collaboration with De Agostini Scuola has designed the **"Climate Education" free course** to train teachers of Italian secondary schools on the topic of climate change, to stimulate with correct practical and theoretical tools the knowledge of "millennial" boys and girls, and to develop in them a new sense of collective responsibility towards the ecosystem in which they live.

viii. Slovenia

In Slovenia, **the curriculums of primary and secondary schools include climate change**, but not in depth and it usually **depends on the individual teacher** how much time he/she will dedicate to this topic. On the other hand, the country has **strong NGO sector with numerous projects** which raise awareness, educate (in a non-formal way) and organize debates about climate change. They also **collaborate with different organizations, youth centres, universities, and schools to reach as many young people as possible**.

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In formal education[20], the curriculum for geography in elementary school does not specifically mention climate change, but states (already in the definition of the subject) that during lessons with students "*we look for answers to the current issues of the environment in which they live [...] and respond to daily current challenges*" (Curriculum, 2011, 4–5), which climate change and its consequences undoubtedly are. Likewise, with regard to the operational goals and contents of the 8th grade, the curriculum states that the student "*gets to know the burning issues of the modern world by studying cases from different continents*" (Prav tam, 2011, 13), where, among other things, the various consequences of climate change can be discussed.

In contrast, the curriculum for high school in general geography states in the chapter on weather and climate as general knowledge that students "*monitor and evaluate weather reports and the latest planetary climate changes; they understand the connection between increased human-induced greenhouse gas emissions and sudden climate change*.". In addition, as complementary knowledge, the curriculum further states that students "*understand predictions of future climate change and the human role in it; get to know and understand natural disasters in connection with the consequences of climate change and the use of space; they understand the connection between different possibilities (scenarios) of climate change and natural resources for survival*" (Polšak et al., 2008, 21). When dealing with the matter on Slovenia in particular, the curriculum states, among other things, that students "*describe climate change in Slovenia*" as additional knowledge (Prav tam, 2008, 41).

As can be seen, **the curriculum offers the teacher many options for including climate change and its consequences in the learning process**, but it depends on the individual teacher how much time would be dedicated to this topic. Especially in elementary school, it is also important how "broadly" the teacher reads the curriculum and how much they are in favour of the mentioned topic.

On the other hand, **NGOs in Slovenia implement various projects and programmes within which they educate and organize different activities / campaigns about climate change**. Here are a few of them:

Umanotera - they organize various events to draw attention to problems in the field of environment, climate change and sustainable development, create initiatives and open public debates. They have successfully implemented many high-profile projects in various fields, including climate change, where they developed various educational materials (Infographic: Climate change and projections for Slovenia; Leaflet "What can I do to mitigate climate change"; Catalogue of youth climate projects etc.) and conducted many workshops for young people in schools and youth organizations.

Fokus - the association for sustainable development is an independent, non-governmental, non-political and non-profit environmental organization working in the field of climate change. They

[20] http://podnebne.splet.arnes.si/files/2020/06/Mednarodna_konferenca_podnebne_spremembe.pdf

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organize various events, implement campaigns and practically oriented projects, raise public awareness, monitor, analyse and get involved in decision-making and policy-making processes, cooperate with various stakeholders and regularly communicate with the media. Their work takes place **both at the local and national level**, as well as **at the international and EU level**. Their latest 2 projects: ClimACT - tackling understanding of the intertwining of the environmental crisis with social issues by mobilizing and activating young people, who are united in the Youth for Climate Justice movement in Slovenia, regarding action in the field of climate change and social justice, which significantly shape their present and future; LIFE IP CARE4CLIMATE – project, which through raising awareness, education and training of key stakeholders encourages the implementation of measures, based which Slovenia will achieve the goals of reducing greenhouse gas emissions by 2020 and 2030, respectively.

Zagovorniki Okolja – an informal network of lawyers who, in cooperation with natural science experts, combine their knowledge for effective legal protection of the environment, nature and space in common use. They also provide general public with information on the legal regulation in the field of climate change and other environmental topics.

Platforma Sloga - NGO platform for development, global learning and humanitarian aid. Right now they are implementing a project called End Climate Change, Start Climate of Change: A **Pan-European Campaign to build a better future for climate induced migrants**, the human face of climate change. It is co-designed and implemented by 15 European civil society organizations. The aim of the project is to raise awareness and critical understanding among young Europeans of climate-driven migration as one of the greatest challenges of today's interdependent world.

Youth for Climate Justice - self-organized, democratic, and diverse movement of more than a hundred individuals from all over Slovenia. They stand for a decent life for everyone on a preserved planet. According to the principles of non-violent resistance, they fight for concrete measures that are friendly to people and the environment, and in the long term they build an alternative to the system of exploitation of people and nature. It is unacceptable that the current government is only deepening the existing environmental crisis, which without immediate action will undermine the conditions for life on our planet. That's why they read, educate themselves and connect with a wide variety of groups and organizations. They organize everything from reading groups, lectures, and workshops to actions in public space, cultural interventions and protests. Through their activities, they demand measures, propose concrete solutions, and gradually build a better future for everyone.

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4. On the way to improve climate education

i. Effective approaches to inform and engage young people on climate issues - good practices

The findings from the focus groups we conducted show several **main groups of sources** young people tend to use in order to get informed about climate issues:

1) Online: foreign media websites and topic related websites
2) Offline: traditional print media and TV
3) Online: social media
4) Offline: in school

The more engaged and aware young people who also read in English seem to use the **websites of foreign media** such as Guardian, BBC, CNN, Reuters to get informed about all kinds of news (including related to climate issues). When it comes to climate topics in particular, many young people point out the webpages of National geographic (also National Geographic Kids), WWF, the IPCC, NASA, Green Peace, newspapers such as the Carbon Brief etc. as main sources of information.

There is also a rather smaller portion of youngsters, predominantly in western Europe, who seem to still refer to **traditional print media and television channels** (such as the free newspapers "Heute" or "Österreich", the “Süddeutsche Zeitung”, the Deutsche Presse-Agentur/German Press Agency, “Tagesschau”, or “Heute Journal”) when in search of reliable information. Of course, most of those newspapers have online editions, as well, so those young people who want to stay regularly informed rather use the mobile apps or push mails of the big newspapers they follow.

Another offline source of information on climate change topics for young people is the **school**, even if it tends to offer rather general understanding and background of the issue than updates and news about current policies. Our field research shows that in Italy, for example, the school is exactly the place where young people are most confronted with information related to climate change. This is due to the fact a few years ago, the Italian minister of education introduced a weekly civic hour within the school program. Some of the topics discussed in these classes are namely sustainable development, environmental education, climate knowledge, and protection of heritage and the territory. In this context, the UN 2030 Agenda often finds a place. In Bulgaria, for instance, the UN Association of Bulgaria’s news page - Una News, which publishes articles related to the SDGs and climate change, is a preferred source by young people with some pre-existing knowledge and preparation on the topic already, and can be also used as a basis for discussion in such classes.

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Generally speaking, traditional media seems to remain more and more in the domain of interest of older generations, while younger people tend to increasingly use **social media** as the main source of information when it comes to climate issues in particular. This is confirmed not only by our field research but also by the survey of Cypronetwork Consulting Group conducted in 2021 in Cyprus, whose results don't come as a surprise and could probably be transferred on European level as well. 1000 Cypriots were asked a series of questions about information, fake news and media, one of them being about the sources of information they use for topics they are interested in. The survey shows that young people use more social media and web portals, (49% and 19% respectively for 18-24 age group and 42% and 16% for ages 25-34). On the other hand, older generations, aged 55-64 and 65+, use more traditional means such as television (54% for 55-64 years old and 86% for 65+). These results are depicted in the table below (Figure 1).

From which Media sources do people get informed for topics of their interest

TV	37%
Social media	33%
Internet sources-portals	13%
Radio	3%
Newspaper	3%
Magazines	2%
Foreign Media	2%
Greek Media	1%
None	7%

Ages	TV	Social Media	Interenet sources-portals	Radio	Newspaper	Magazines	Foreign Media	Greek Media
18-24	15%	49%	19%	-	-	4%	1%	3%
25-34	19%	42%	16%	3%	6%	3%	<1	-
35-44	29%	38%	18%	2%	2%	1%	4%	-
45-54	39%	42%	11%	1%	-	3%	1%	1%
55-64	54%	21%	9%	6%	1%	-	2%	3%
65+	86%	7%	3%	6%	3%	3%	-	-
Total	**37%**	**33%**	**13%**	**3%**	**3%**	**2%**	**2%**	**1%**

Figure 1: Adjusted Cypronetwork Research Study, 2021

As mentioned above, our focus groups with young people in the different countries showed similar results. **Young people are mostly informed through the internet and especially social media**: Facebook, Instagram, Google, Youtube and Reddit are some of the most common sources, documentaries, podcasts and independent online media also belong to the sources that more engaged young people use. Youth spends many hours per day following dedicated pages and influencers and are exposed to the content shared by their friends. The general tendency is towards shorter texts, if video content even better, and lesser volume of information as whole. However, there is little awareness that information has to be further checked, that sources might not be reliable and that a small scope of information is not sufficient for building up an opinion on complex topics such as climate change. Youth workers and teachers see great need for action here. Moreover, they are aware that these actions need to be adapted to the respective audience and consider the preferences coming from their environment – not only in terms of language and methodology but also in terms of using the internet and social media channels as tools to facilitate the learning by doing process.

When it comes to engaging young people effectively, youth workers recommend using methods such as **games and different challenges** or digital tools for polls like "Kahoot!", which can vary depending on the age of the youngsters. One such example is the European Climalt project, running in 2019 and 2020, which provides a free e-learning course with video lectures, quizzes, readings and individual assignments as well as webinars meant for young people. In addition, an interactive game

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on climate-friendly actions and challenges was created and is still available in 4 languages, including English.

Another seemingly very effective way to inform young people about climate related issues is through creating **short and engaging videos** – possibly made by and meant for young people. One such project is currently running in Bulgaria, prompting young people under 24 to become climate ambassadors and heroes by educating them on the topic and empowering them to create engaging and informative **video content on Youtube** in order to raise awareness and mobilize their peers. Based on Bulgarian national research[21] done by ESTAT and assigned by UNICEF Bulgaria, short videos are the main preferred format for children and young people, and YouTube is definitely the favourite platform to access them (Figure 2). This is true for other European countries as well, as our focus groups with young people across the partner countries showed. After all, some of the most successful information campaigns and interventions are precisely those based on short video content.

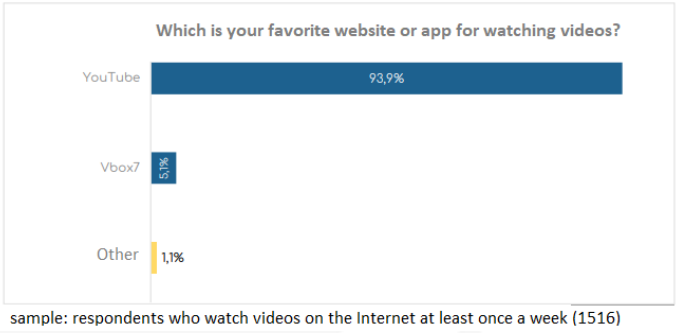

Figure 2: ESTAT study, 2020

While it can seem challenging to present 'serious' information, important for young people's development, in a fun way, combining entertaining content with informative and socially-oriented messages seems to be the best way to draw younger audiences' attention to important topics such as climate change.

One good example in this regard is the Klimareporter.in project, which was launched in 2016 by the Austrian Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology (BMK). The often seemingly complex topic of climate change is broken down into understandable aspects and presented in an exciting way. Apart from the classic mainstream media, within the project young people create environmentally relevant content that appeals to the climate generation and is contemporary. The team of 20 students and young adults shoots **videos,** documents events, uses the **major social media channels** and writes **blog posts** in an understandable and engaging way.

Our field research in most partner countries shows that more and more youth workers reach out to different **social media platforms** in order to engage and inform young audiences. Using influencers on **Instagram** for example is no longer an abstract idea and the so called *greenfluencers* are gaining more and more popularity in Europe as well. While many people seem to be rather reluctant

[21] Analytical report "Media consumption and *influencers* of children and young people in Bulgaria", available only in BG

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regarding using **Tik-Tok** for educational and raising awareness purposes, Green Peace activists have started using it in order to engage younger audiences.

When speaking about social media as a tool to inform and engage young people, the good practices rely on incorporating the topic of climate change through a discussion by getting to **understand their online behaviour** first. Getting to know their level of attachment to the subject, and how much knowledge they have on the topic allows the youth workers to adapt their speech and focus on the aspects that refer to their online behaviour. Depending on the audience's level of awareness of environmental fake news, different activities can be created, which are adaptable to the specific social platforms. Young people tend to be on different platforms, so following different approaches to the topic is important, but what is clear is that **their critical sense has developed as well thanks to people speaking openly on social media**. This comes to show that even if reaching out to young people can get harder and harder with all newly emerging social media channels, as it can be difficult for youth workers and educators to keep up, it is worth it. It is also important to help young people develop the kind of content they want to spread and build bridges between different industries and actors of environmental protection to share more about initiatives in that field.

In any case, **working with youth on topics that are close to them,** and their everyday life seems to be the key in captivating their attention, so this needs to be taken into account when creating any type of educational content on complex issues such as climate change. Young people seem to be eager to engage in discussions about such topics, especially when they can relate to it. In this sense, the choice of topics and related activities must have a direct connection to the lives and daily routines of young people. It is fruitful to **give young people responsibility**, e.g. in creating their own ecological/climate projects, and thus give them the opportunity to find out themselves why climate change is an issue, and what it has to do with their very personal lives. In this particular case, it is essential to transfer the idea that there is still time to do something and that even small actions count and can have an impact. In order to support and guide this process, a large number of projects were launched, e.g. in German schools. Schools play a particularly important role in climate protection. They are among the largest public energy consumers and, as places of learning, offer a good opportunity to get students excited about climate protection at an early age. One such good example is the Climate protection in the classroom - a guide for schools[22], which gives students and teachers tips on **how to start a climate protection project** at their school. In addition to important background knowledge and a description of possible measures, there are also tips on challenges, financing options, contact points for further information as well as an inspiring set of examples of schools already active in climate protection which have set up a variety of outstanding projects.

[22] Guide available only in German.

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ii. Pitfalls – what to avoid in the process

Educating young people about climate change and fake news is something really important, and, as our findings show, it is needed. However, it should be planned in a careful and structured way. For example, the platforms and the means for educating young people should be legit and reliable. Moreover, the content provided for education should be backed up with scientific evidence and facts from international sources such as NASA, IPCC, World Meteorological Organisation, and several prestige Universities. If this training strategy is not planned well, then there is a risk of lack of trust and failure to transfer the truthful messages for environmental protection and fighting climate change via fighting disinformation. In a world of suspicion and of fake news, steps across climate education should be well planned.

Therefore, apart from good practices for engaging young people in climate issues, the youth workers we talked to shared with us some useful practical information on what is better to be avoided when trying to educate young people about climate and fake news.

Communication

Youngsters tend to engage more easily if they feel their opinion is considered: asking them questions, listening to their opinion, making them feel heard and providing feedback is essential. It is important to create an **interactive debate**, whether it is online or offline. Moreover, going straight to the point could not always be so productive. The key might be starting from a more general matter topic and slowly getting to the heart of the matter.

Speaking youth's language is also important but can be a challenge – there is a fine balance here when communicating with young people that needs to be found between being accessible and natural at the same time. Often, many explanations are needed but the teacher-student opposition of "I am the smart one, you should listen to me" can be counterproductive and should therefore be avoided. The approach of **discussing rather than lecturing** is much more suitable when educating young people on such topics.

Seeking the balance

As mentioned in the previous section, to catch younger audience's attention to such a complex topic it is extremely important to bring it closer to their everyday lives. The topic of climate change and environmental protection is one that allows many opportunities to do so by speaking of personal behaviours such as waste reduction/management, food choices, energy and water efficiency, transport choices etc. However, this may hide the risk of easily slipping into criticism mode. **Bringing on the sense of guilt and pointing fingers** is an approach that should be avoided when working with young people, as it can be counterproductive.

Going to extremes is another pitfall – again, balance should be sought in calling to action as well. Some global environmental movements (e.g. Fridays for Future, Extinction Rebellion) can

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sometimes be a bit extreme in their approach, which could have the opposite effect, even if their messages can be convincing and accessible for young people.

Visualization & shorter content

Presenting the problems in a boring way, using lots of dry data and figures doesn't work well either, even if when discussing a matter so complex as climate change, scientific explanations are to be often to be referenced. Therefore, a more practical, hands-on and visual approach should be adopted, which needs to be adapted to the respective target audience.

Reading can also be a challenge when working with and engaging young people - giving them complex and long information that they need to explore in depth is rarely effective based on the impressions of the youth workers we interviewed. Often, young people can understand intuitively that a certain piece of information is not reliable and needs to be checked, but they rarely bother to do this check. They simply assume that it is not OK and cannot be fully trusted. So, taking this into account, adequate approaches to debunking myths have to be considered.

Trust issues

Some other challenges lie in the complexity of media education. Youth workers point out how difficult it is to teach **critical thinking** to young audiences because in order to be critical towards a source one has to know which sources are reliable in the first place. To gain this knowledge, one needs a certain amount of experience, which cannot be taught punctually, but is rather a process. It is also challenging to teach young people to catch up with **subtext and hidden messages** (to "read between the lines").

Furthermore, fake news is linked to many other **sensitive topics**, which makes it challenging to bring young people closer to the topic. Depending on the group`s age, one has to be careful what topics to discuss in order to not scare young people too much. Teachers and youth workers therefore must have good knowledge of the group he/she is working with.

According to our interview partners, another challenge is to improve **handling preconceived opinions**. This does not apply to climate change only but is a general problem they are confronted with. Some young people usually believe everything that is posted on facebook or on the Internet and tend to express bigger doubt towards traditional news platforms. This **lack of trust** from young people can make them sometimes doubtful towards news in general and the way the narratives are being shared. So much so, that some young people (like one of the focus groups with students in Bulgaria showed) can get to the point that they doubt everything and everyone and have no trust whatsoever, which can be dangerous and lead to taking no action.

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iii. Motivating young people to become climate ambassadors

As can be read in the blog entries on the Austrian Fridays for Future website, young people are concerned about the climate. They are motivated to do something not only on personal level (by raising awareness among their parents and grandparents) but also to get politicians to change things, because now is the last moment to do so. Particularly in the Fridays for future community, people are concerned with making politicians aware of the issue. They engage in raising awareness actions, read up on the subject and commit to pass on this knowledge. By demonstrating, contributing to discussions and attracting attention in the social media, they are already ambassadors for this issue and are certainly willing to continue doing so.

When asked about **their approach as potential climate ambassadors** to convincing their peers or grandparents, young people point out that the messages they would spread should be turned towards the **personal benefit** of doing something. For better or worse, human beings in some way need personal gain to take action: whether it is an economic incentive or the loss of a clean environment in which to cultivate their passions. If they understand that fake news and climate myths perpetuates climate change, probably they would be more willing to do something about it.

Young people agree that **setting a personal example** can be a powerful tool and the **sense of personal responsibility** can play a huge role here. Many young people believe that fighting climate change and disinformation in this regard is also a question of responsibility, because the countries they come from are industrialized and thus contribute significantly to climate change, while the effects will probably impact us much less than poorer countries. They also hope that the fight against climate change may bring other positive opportunities, for example, to rethink social order, to create a more just and liveable world, to bring cohesion and more meaning into people`s lives.

Another reason serving as a **motivation factor for young people** to become more active in the fight against climate change is their **fear of what the future will look like** if nothing changes in our emissions. Many young people are very sensitive when it comes to protecting nature, for example, and they are motivated by their love for nature, the ecosystems, the biodiversity. Creating a link between young people and nature can be incredibly fruitful in bringing them closer to the environmental topic, as a true connection between people and nature is a big factor for increasing people's motivation. People who see with their own eyes the effect of climate change are more inclined to do something to safeguard it.

The feeling of **being useful**, being part of something bigger and **contributing to such a global cause** is also a driving force for young people that should not be underestimated. The hope for this perpetual effect - that one small action can bring more people to become involved in climate protection – is a reason enough for some. They even have a vision of a **community of climate ambassadors** who educate others in an understanding, factual, respectful, and friendly way, without imposing their beliefs on others or pressuring them. They believe that people should be

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inspired, not discouraged or depressed, and that they should offer a balance of urgent facts and real-world opportunities for action.

Others, as we found out with one of our German groups, feel they would not be well equipped to be climate ambassadors. Reason for this is not automatically a disinterest in the topic. They shared they rather feel frustrated, powerless or have no hope in people changing their opinions and behaviour.

In some cases, taking no action is a matter of mentality, which can be very difficult to change and thus discouraging. Sometimes, however, the motivation can come exactly from the desire to shift this mentality, as was the case with some young people from Bulgaria, who shared with regret their observation that in Bulgarian society there is this attitude that nothing depends on us and that our little action will not matter if others do nothing, so they feel motivated to change that. In their opinion, when talking about motivating older generations, a good approach is to **start from a problem that is close to them** - by highlighting the negative consequence from a certain action that is harmful for the environment – e.g. air pollution. They believe that if they talk about something that can be harmful to them, then older people would listen, as they are more sensitive when it comes to their health for example. Young people find this **individual - centred approach** to be more effective on older generations.

All in all, our research showed that young people do care about climate change and the impact it has on our lives. They are also aware of the misinformation and fake news related to climate, even if it can be difficult for them to orient in all the resources available providing all sorts of information. The level of distrust among some young people we spoke to seems to be very high – intuitively they can sense if certain information they come across is fake but do not make the effort to cross-check. However, they themselves observe that older people are more prone to share fake news on social media and even believe them, so they are motivated to contribute to fighting this. **Young people do believe it is vital to educate others about fake news and misinformation to avoid wrong beliefs and perceptions that could be translated into harmful behaviours.**

5. Understanding and fighting fake news

i. Who is more vulnerable to fake news?

Based on the interviews and focus groups we conducted in the 7 partner countries, it seems more people (including young people themselves) believe that **older generations are more susceptible to fake news** in general, not only such related to climate. There are several reasons we identified, which lead to this perception.

The main reason for this is the fact that disinformation, especially regarding climate change, is perceived to be mostly happening on social media and its main users are young people. Disinformation campaigns inevitably look to social media as channels to spread misinformation, and

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young people who have grown up with the internet and social media, are believed to be less vulnerable than adults. They are **more used to the online environment**, having been raised in it, and are more aware of the fact that not everything you find online is true (unlike the older generations who tend to lack media literacy).

Older people grew up in a system of professionals and institutions (journalists, few but reliable TV-channels etc.) that checked and filtered the news before spreading them, whereas today, everyone can set up an article and little is done to check its content. As a consequence, the older generations **tend to believe more in what they hear or find on the internet** than younger people. In addition, the older generations grew up without today's modern technologies and **do not have the same digital skills** as young people, and therefore are **less likely to identify fake news**.

It seems many youngsters think that older people more often look for facts that confirm their existing opinion and can therefore easily "fall for" fake news. Older generations are generally more likely to believe false information and spread it online by simply sharing a post. Since the younger generations are more aware of fake news, they spread them more consciously – if they do so at all – whereas **older people involuntarily share fake news**, not having the competence to spot them. In addition, many young people are of the opinion that older generations are just happy to be part of the digital community at all, and **do not focus as much on the content** they find on the internet. Even if it appears that conspiracy theories are being released online by young people between the ages of 18 to 30, they are then being diffused and given visibility by older people between the ages of 40/50 to 70. On a social media such as facebook, the comments section of viral posts that aim at striking a reaction from the reader and make them react in comments are filled with people aged 40 onwards who will **argue online**. Young people rarely take part in written arguments online, one of the reasons being that they don't use facebook to voice their opinion.

Another reason for this perception that older people are more prone to believe and share fake news, especially related to climate change is because **older generations didn't have the same education in climate topics as today's youngsters** (some of the old generations didn't have such training at all). Therefore, they are often much less aware of this issue in a first place.

Moreover, **older generations find it hard to change their beliefs**, attitudes and ideological views. It is only natural that as one grows older, the resistance to change increases and accepting updated life-changing information becomes more difficult. Therefore, it is easier for older people to believe something that is aligned with their own beliefs, even if it's not true. While this can be true also for some young people too, young generations, on average, are more connected to the international community through the digital world and travel more, which is very important in debunking myths and changing views.

The other very popular opinion, that many participants shared is that **vulnerability to fake news is not about the age** but about factors such as economic situation, radicalisation and lack of critical thinking. Our findings show that the way people deal with climate change and fake news cannot be

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reduced to a certain age group. The willingness to deal with climate issues and the way fake news is dealt with depend a lot on the educational level and the social background of the respondents. Young people also admit that the older generations have learned critical thinking out of a different historic and educational background, whereas very young people, especially teenagers still lack this capability and don't have the necessary tools to distinguish true from false news.

Less people from our research thought that **young people are quicker to believe in fake news than older people.** Very often they share fake news because they just don't know any better or are too naive and want to believe everything they hear/read, so they simply trust everything they are told. Another possible explanation for this could be that elderly people still stick to qualitative media and read reliable newspapers. Moreover, it was pointed out that younger people have not had as many opportunities to sharpen their own perceptions. Up to a certain age, only a few of them read, listen to and watch official news. This can be found much more often in the older generations, especially when they have a higher educational background. Additionally, **older people's opinions are based on life experiences**, while young people are constantly on the phone and are overflooded with information through the Internet. It is therefore difficult for them to distinguish between correct and incorrect, especially if they lack critical thinking skills, which is often the case at such an early age.

Having all this in mind, it is difficult to say exactly who is more susceptible to fake news because both groups face different challenges. Older people are more conservative when it comes to where they find information on current issues. They diversify their resources much less and are more used to reading one certain media, which makes them more vulnerable to disinformation. On the other hand, young people are more open to alternative sources, but at the same time they are overflooded with information. And if they lack critical thinking and skills on how to distinguish real facts from fake news or opinions, then they become just as vulnerable to misinformation as older generations. So, we could accept that both groups are susceptible to believing fake news just in different ways and for different reasons.

ii. How is misinformation spread?

Our findings clearly show that **social media channels** (such as Facebook, Instagram, Twitter, Telegram, Youtube, even TikTok when speaking particularly about younger audience) are **the most used ways to spread misinformation**. Fake news are most easily spread online - on social media everyone is allowed to post anything and because they are used by so many people, there is such a **wide reach**. Every post can reach hundreds or thousands of people at once, who then can share the fake news further on (the snowball effect). Most of the time people bluntly share fake news without giving it a second thought, for a number of reasons (more often than not fake news can be hard to spot and look like real news but in reality, the true information gets twisted and key points get cut out). Whoever has interest in spreading fake news, can create an article that seems truthful, or by

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taking the information out of context and distorting it. At first glance, the news can look convincing - we should not forget that some fake news can be pretty elaborate, using real footage and making up a story around it that fits a certain narrative. Social media is the fastest and easiest way to spread misinformation because a) **there is no control** over what people publish and share, and b) everyone has **free access**. It is very easy for anyone to create fake Facebook profiles or entire webpages and spread specific and targeted misinformation.

In favour of the above revelation speak 2 wider national studies, conducted in Bulgaria and Cyprus. Even if focusing on the context of the electoral campaign for the presidential and the third parliamentary elections of last year, the analysis by the Centre for the Study of Democracy (2021, Bulgaria) shows the **increasing influence of social media in an attempt to shape the public opinion by spreading distorted information**. It provides a brief overview of the main disinformation messages that political parties spread on social media and attempts to reveal their potential impact on public opinion in the run-up to the elections. The **most popular narratives in the Bulgarian Facebook space** in the weeks before the elections concerned (1) COVID-19 & the vaccines and (2) **the European Green Deal** (figures below), which was portrayed as a utopian, economically unviable policy that has led to Europe's current energy crisis. It was said to be bad for Bulgaria, being the main reason for the energy crisis, and should be abandoned.

Figure 7: Total Interactions and Posts Containing European Green Deal Narratives by 155 Problematic Outlets (14 Oct – 8 Nov)

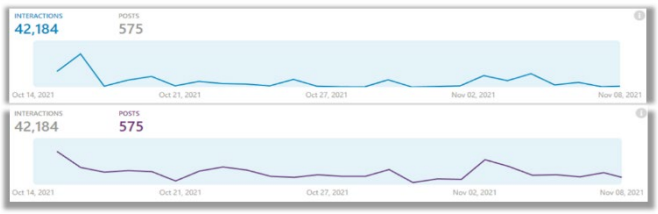
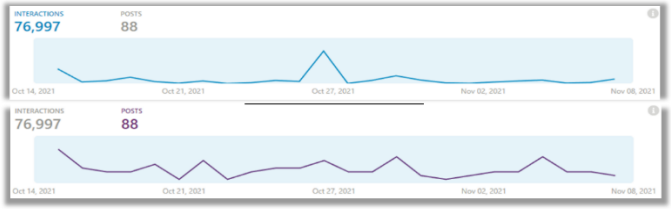


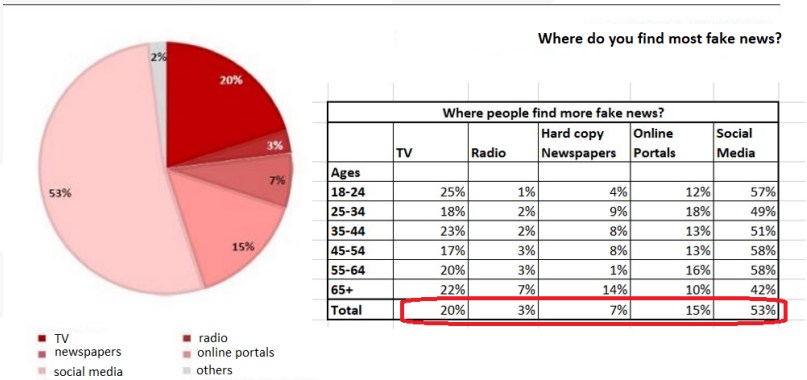
Figure 8: Total Interactions and Posts Containing European Green Deal Narratives by 42 Political Figures, 18 Political Parties and 9 Presidential Candidates Combined (14 Oct – 8 Nov)



Source: *CSD based on CrowdTangle data.*

The already mentioned Cypronetwork Research Study from 2021 (Cyprus) shows in the graph on the right that Cyprus citizens seem to find more fake news in social media (53% of the respondents), then in television (20%) and then in the online portals (15%).

Adjusted from Cypronetwork Research Study, 2021



Where people find more fake news?					
	TV	Radio	Hard copy Newspapers	Online Portals	Social Media
Ages					
18-24	25%	1%	4%	12%	57%
25-34	18%	2%	9%	18%	49%
35-44	23%	2%	8%	13%	51%
45-54	17%	3%	8%	13%	58%
55-64	20%	3%	1%	16%	58%
65+	22%	7%	14%	10%	42%
Total	20%	3%	7%	15%	53%

Even though social media is no. 1 as the most used and immediate means of spreading misinformation, the traditional form of acquiring information via TV is considered more dangerous. That would be because the average individual has already built up trust in the TV, considering it a

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reliable source of information. In such a case the critical thinking is rather asleep, and the news shown on TV are often believed without question. What happens offline is often a reflection of what we see online. The disinformation could pass through traditional media such as poor-quality newspapers and magazines, as well as television programs, created only to increase the audience.

Spreading fake news can be motivated in many ways. One reason for doing so is **to gain more clicks** (click-bating), and with this, to keep power or to gain more power. Another is **to make money** (financial aspects). The mechanisms behind this can be manifold. Sometimes, sharing fake news is simply the result of an overload of news and therefore involuntary. Fake news might also be spread simply because they are **more interesting than the truth**. People might also spread fake news on purpose out of frustration, in order to **influence other people** or since they are sceptic concerning certain issues e.g. climate change. Another psychological aspect is that people **do not want to know the truth** (as in the case with the existence of climate change), because they would have to change their lifestyles if they accepted this.

iii. Who is spreading it? Main actors (responsible for) spreading misinformation

Our research shows that the most common actors, interested in creating and spreading fake news are **multinational companies and businesses** pursuing developments in environmentally fragile areas, who might want to have (or continue having) operational activities that cause huge pollution problems. These companies are trying to undermine the importance of climate change and try to make people believe that these business activities have no harmful impacts on the environment. Also, energy-intensive companies (companies of "alternative energies") can spread wrong information or suppress information. Further actors can be the car-industry or other companies that are climate-damaging. These multinational companies have a very high impact on the environment and, despite knowing it, they pursue destructive behavior to increase profit. Youngsters are also aware that firms, many times, carry out fake campaigns for the environment, the so-called greenwashing practice, which may seem true to an unwary eye. Sometimes, misinformation doesn't have to be the intentional deceitful spread of lies - telling partial truths without actually lying or hiding certain facts to shift the focus is also a form of disinformation. Such an example can be the public campaign back in 2017 of the largest soft drinks company in the world – Coca Cola – who committed to increasing recycled plastic in its bottles while actually increasing their use of single-use plastic bottles, as uncovered by Greenpeace activists.

Anyone who has economic or political interest can spread misinformation regarding climate change. A recent example is the former US president Donald Trump with his statements on climate change hoax, which many of his followers believe.

Among Bulgarian climate-friendly communities, for example, certain people are known to be intentionally spreading disinformation on the topic of climate change. Some of those people are

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quite familiar to the activists and surprisingly enough, among them there are **self-proclaimed environmental experts**, receiving a lot of national media attention, or **even politicians** from the former governing majority and university teachers. The **industrial lobby** and politicians who are close to the lobby groups can be stakeholders and responsible players in this scenario. Research institutions also depend on public funding and can thus be corrupted. Our findings from the field research showed that paying **university teachers** to spread disinformation among students and the academic community is a practice used to create an artificial scientific debate on hot topics which are controversial in the society - not only climate related but also the Istanbul Convention, the Covid-19 vaccines etc. This **artificial introduction of a "different perspective"** can be a misinformation technique in itself, aiming at diverting the public attention from the main problem.

Since social media is a powerful channel for spreading fake news and disinformation, there are also cases of **(young) influencers** with a very wide reach of many followers, who are paid to advertise certain companies from the industry. One can imagine the impact such approaches can have on the younger audiences, and this also speaks in favour of the lack of critical thinking among certain young people – on both sides of the fence.

When speaking about spreading misinformation, unfortunately, **there are also people, who are not paid to do so but sincerely believe** in the truthfulness of certain narratives. The examples can be numerous but taking climate change for instance, there are still people who are convinced that it doesn't exist or that it isn't caused by humans. There is also the perception among some people that we should simply put up with climate change and environmental degradation as the side effects of human activity because prosperity is the ultimate goal of modern society – this is the economic argument some people use in order to excuse their inaction.

Of course, there are also **people who simply need attention** and therefore tend to spread untruths and false information. There are members of society who have negative feelings such as dissatisfaction, a lack of attention, or who feel restricted due to climate change actions for example, and thus can be interested in spreading misinformation.

Another big problem are **conspiracy theories**, which rise in times of great uncertainty, and their followers (the people who believe in them). There are specific websites and social media pages which spread conspiracy theories and religious groups that doubt scientific evidence. A lot of people believe and feed in the conspiracy theories - they read about something or hear it from someone and then write about it online to voice their opinion to be heard by similar minds. Some extreme political figures will tend to spread them as well and less educated/naïve users will tend to believe and engage in online debates for example, and thus participate in the expanding web of fake news.

It is probably true that false information was spread in the past as well, but how to deal with this at a time when information is spread as quickly as it is today through the Internet? How can this vicious circle of fake news be interrupted?

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iv. How to recognize fake news? Sensitizing young people

The short answer is through educating and sensitizing society, and especially young people, that fake news exist, they are part of our reality today, and that misinformation can take many forms. Young people need to start acquiring critical thinking skills from an early age. They need to be made aware of the signs to look for when reading a certain piece of information, the so called “red flags” that can help them realize something is wrong and recognize true from untrue or misleading narratives. Of course, in practice finding the right approach can be quite difficult, and this skill set should be regularly updated in order for people to be able to keep up with the trends - the more elaborate fake news become, the more complicated this is. We tried to find out different techniques to draw young people’s attention to the misinformation circulating all over the internet and sensitize them to be alert when looking for information on a certain issue.

Of course, the best way to protect people from false information would be for media to publish and share predominantly reliable information in the first place. After all, one cannot expect young people to constantly check databases with facts and figures and read academic articles and analysis in order to cross-check everything. Some may argue this is part of the media’s tasks – to sift through all scientific facts and explanation, make their background check and then **summarize the scientific information** (e.g. when speaking about issues like climate change) to **present it an understandable way**, suitable also for young people. In this sense, on one hand, it is crucial to raise the awareness and **build the capacity of mass media too**, despite the general trends towards a shrinking interest in traditional media channels at the expense of online content (many of the big newspapers and TV channels have their online outlets too, anyways). We, as a society, can and should demand the main means of information such as TV, radio, newspapers and their respective social media channels to use higher standards and filter all the news. We could also utilise a code of conduct or code of sharing information with the news reporters' media.

On the other hand, it is important to have different initiatives and websites, whose mission is to publish accessible (also in terms of language), reliable, confirmed information from carefully selected authors and trusted sources in order to sensitize young people and help them recognise fake news from real facts. Of course, then it would be crucial to popularize the various platforms that exist online to fact check content and verify the veracity of the sources cited among young people and let them know they exist.

Our findings show that different types of **engaging exercises** seem to be the best tool to educate young people regarding fake news. Educating kids from an early age by setting an example is crucial – showing young people what signs to look for when reading a publication on the internet in order to be able to distinguish reliable from non-reliable information – e.g.:

- is there anything in this statement that affects me personally and is emotionally charged?
- can I get to the source of the quote?
- does the information sound authentic?

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- is it possible that someone has an interest in spreading fake news about this issue to discredit another person or group of people?
- are there any indications of an obscure or dubious source such as many misspellings?
- can I find this information in multiple sources in order to do a cross-check?
- photos or video content do not always make a publication credible
- are there quotes from scientific sources?
- does the news seem to be exaggerated or sensational?
- do background check on the author of the publication
- etc.

However, a simple dry presentation with tips about spotting fake news is not enough. The youth workers we interviewed shared with us several techniques that could be used as tools in sensitising young people about misinformation. A good practice that seems to work well is using a **reverse strategy** - making them create their own fake news on certain topics, so they know the algorithm of creating fake news and distorting facts, and the logic behind it. Another well working approach is giving youth **fake news that seem very credible** on the surface, so they can look at it more critically, and putting them in the shoes of journalists whose job is to check their facts. Youth workers were unanimous that to sensitize young people it is necessary to keep them engaged. For instance, Wikipedia, being an online participative encyclopaedia and a widespread source of information known and visited by users from all around the world, implies that anyone can modify the content that is posted on any page online about any topic, and write false information that will be then believed and relayed by users who simply trust the website. An activity idea during a workshop would be to make young people **create a fake Wikipedia page** or just add false information to an existing one and see the process of fact checking. Another way to do so could be involving them in a **debunking contest**, in which different hot topics are examined such as the impact of the European Green Deal or the Covid-19 pandemic. The challenge would be to examine the news that have been spread online since its appearance in the public eye, what myths are there, how they were debunked, which fake news we were most widely believed. Giving importance to the context is essential.

While providing non-formal trainings is considered highly effective, it would be good to **integrate media literacy training or critical thinking into the formal education** where possible, as well. In some countries like Germany, teachers regularly integrate **internet research** (for lectures, presentations) into their lessons to teach their students recognising fake news. This is done with the learning objective of distinguishing trustworthy from untrustworthy sources. Teachers there also like to use **open discussion sessions** where students can share their opinions. Furthermore, they have good experience with **providing incentives**. In some schools, climate change, climate risks and ways to stop climate change is part of the curriculum, or part of final exams. Other good practices could be inserting meetings and gamification activities within the school timetable, emphasizing the

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fact that climate change, and misinformation, can have a very high economic impact. This is a valid reason to capture the attention of even those young people who are less interested in the environmental aspect of the topic.

v. Online tools to fight misinformation – best practices

Since it is widely accepted that misinformation predominantly happens online, the partnership attempted to find out what the best online tools are that can be used to fight misinformation.

The best ones seem to be **fact-checking websites** created with the sole purpose of debunking certain misconceptions, regardless of the topic. Therefore, we created a compilation of different fact-checking websites, categorized by type, which are most used in the different partner countries. This non-exhaustive list can be found in the Resources section on the SLACC project website.

Apart from the above, there are many **websites** where reliable **scientific information** can be found. Teachers in Germany, for example, use the public tv-channels' or newspapers' homepages such as ARD, ZDF, NDR. Wikipedia is also consulted, although professionals are aware that this is not ideal. However, the level of tolerance among some young people is often higher, so Wikipedia is used for motivational reasons. With regard to climate in particular, there are the websites of the European Youth Forum and the Council of Europe, which develop resources created especially for young people, meaning also written in accessible language. The UN Association of Bulgaria's **online media outlet** - Una News is an example, which also publishes articles related to the SDGs and climate change, even if this content is promoted more actively among young people with some pre-existing knowledge and preparation on the topic already. The UN website is another reliable information source publishing materials suitable for young people, even if rather published in English. They are usually in the form of leaflets, short articles, and lots of videos – all formats we have established resonate well with young people.

Many scientific magazines like "Science" or even "National geographic" already have **social media accounts**, where they summarize the scientific information in a concise and more digestible manner, suitable for the habits of younger audiences. One such source that gained popularity in France for clearing false information online and voicing real facts and opinions is the Instagram account @lesrepliquesofficiel. The Green Peace websites (international and country based) are totally reliable and also have a strong presence in social media. **Videos of journalists posting online** directly through their own platforms and not through the lens of a media is also a best practice many European journalists have been using lately. This allows for less censure of speech and a rise in raw information being spread by locals and at the exact moment an event happens, which gives legitimacy to the information.

For those who prefer to perceive concise scientific information in an audible format rather than reading it, there are also various **podcasts** such as „It is the Internet speaking" in Bulgaria, which

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features different discussions with experts on socially important topics, including climate change and media literacy.

Digital tools are a great way of both informing and sensitizing the youth when it comes to fighting misinformation because of the presence of technology in their lives. Technological tools such as AR/VR/XR could help in understanding how to better distinguish between fake and real news. In addition to this, there are a number of **online courses** about misinformation such as https://trainingclub.eu/fake-news/ , for example.

6. Learning needs & recommendations

i. Learning needs of young people & climate myths

Our findings have shown that **critical thinking** is the biggest learning need for all groups of society, but especially for young people. This is the most important skill they need to be equipped with in the fight against climate misinformation and fake news in general. As we established, young people mainly consume information online via social media platforms. On these platforms, it is often not easy to identify whether certain news is fake or reliable. Youth workers and experts therefore see a great need in supporting young people to develop critical thinking and media literacy skills. This also includes **developing awareness** for the problem of misinformation in a first place, followed or accompanied by developing **methods to distinguish credible from fake information**. In this sense, any kind of trainings, providing young people with useful tools to dispel fake news is considered essential in terms of further developing the SLACC offer.

Since one of the project goals is to motivate and empower young people to become climate ambassadors, who would in their turn support the older generations in the face of their parents and grandparents to lead a more conscious life, another crucial element of the SLACC training offer should be dedicated to developing **transversal soft skills.** They would help young people to strengthen their critical sense, build greater self-confidence as well as develop the awareness that every single action counts and can improve the climate situation. Often, as our focus groups also showed, young people are discouraged, thinking that decisions are and must be made by governments or by others while they individually cannot do much. A young activist, however, should have good **communication skills** in order to engage other people in supporting the cause and be able to convey simple ideas in the best possible way. **Proactivity** and **flexibility** are also useful skills to have in order to be ready to adapt to different situations, without having a sense of frustration. It is also fundamental to make it clear that everyone has their own assets, capacity, and knowledge that they can contribute with and no effort made in the right direction is in vain.

Apart from the critical thinking and relevant soft/social skills, we identified another need (even if much less common) that active young people, engaged in youth organizations, seem to be having. It is related to **project writing skills and the accessibility of funding opportunities**. The thing that

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discourages young people from getting involved in green policies and developing projects on such topics, despite their desire to do so, is the bureaucracy and the fact that such funding programmes seem to not be accessible enough for young people (e.g. they lack knowledge on how to write projects, how to obtain certain documents that are required). Because of this concern of many youth organizations, the European Youth Forum has recently adopted a document calling for decreasing the bureaucracy in programmes and projects on climate issues such as the Green Deal - topics young people are actually interested in working on.

When it comes to the subject of climate in particular, we have identified **certain gaps in the knowledge of young people**, which do make them vulnerable to disinformation in this regard. We tried to find out which were the issues young people had most trouble understanding related to climate itself and its impacts, and which are the most popular climate myths circulating the public space.

The findings based on the focus groups we conducted show some serious knowledge gaps in both fake news in general and climate change in particular. Some of the topics on which young people could definitely use more information are:

- Why is power/electricity becoming more expensive?
- What is the European Green Deal about and what is its purpose?
- What is the environmental impact of (fast) fashion industry and agriculture?
- What is greenwashing and how does it work?
- Where to cross-check the information they come across online – factchecking tools & websites?
- What is a fake news in general, what does it comprise, what forms can it take – how to recognize fake news, especially when they look credible/real?

We have established **6 main groups of misbeliefs** which are quite popular among young people and are either directly believed by many or often heard in arguments about climate change topics. A detailed compilation of those misconceptions is to be found in the **Climate myths catalogue**.

According to our findings, the most common myth is that **climate change is a natural process** and human influence is not the main reason for it. This is now very easy to refute - there are plenty of data, scientific publications (e.g. the Intergovernmental Panel on Climate Change reports) and technical tools to prove this wrong. It is important to underline that there is no longer a debate among scientists as to whether climate change is caused by human actions - the differences come from the extent to which this is the case (where is the limit) and the timespan we have in order to take action.

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Another popular misconception is that **climate change does not exist**, even if the young people we talked to do not explicitly believe in this anymore and as plenty of European-wide surveys already prove, people are aware that climate change is a real problem. This doesn't mean, however, that there are no publications trying to impose such narrative.
There is also a significant number of fake news, spreading the misconception that **the consequences of climate change are not significant.** Diminishing or belittling the severeness of a problem is in itself a misleading practice and does constitute distorting the truth.

Another example of a direct distortion of facts with the intention of imposing certain beliefs or economic policies is the popular narrative (at least in certain countries) that **climate-friendly policies are bad for the people**. A topical issue currently gaining on importance in Europe are the increasing electricity prices – not surprisingly, there is severe misinformation about that among young people (and society in general). Myths say for example that **high electricity prices are the result of green policies**, which is reinforced even by certain experts during public speaking (this is the case in Bulgaria at least). The explanation is not so simple and has to do with a lot of misconceptions regarding the European Green Deal, which are not explained enough to the wider public but it should be underlined that the impact of EU green policies can only be traced in the following next 10 years - too little time has passed so far in order to make an adequate analysis, no matter what certain narrative are making us believe.

Another popular myth circulating around the public space is that **we couldn't/shouldn't do anything to stop climate change**. This can be quite dangerous, as it corresponds well with those who are easily discouraged to take action and/or feel powerless looking at the big picture. It is a convenient way out and it should be made clear that this is not the right mindset in approaching such a global issue that requires action on many levels. The same is the logic behind statements like **"whatever we do in the EU, it is pointless"** because it contributes to only 8% of global greenhouse gas emissions, which may actually be true but are often misused as an argument to convince people that there is no point in doing anything to fight climate change. Young people especially seem to be vulnerable to this argument or it is being used by certain groups to shape their opinion, which can be risky. It should be made clear to young people that the EU is a pioneer and even if it is not a huge emitter of greenhouse gases, the Union is an important commercial actor in global trade with various resources, and an economic agent, driving the development of new technologies and policies, competing directly with China and the US. So, it IS important to act at European level.

ii. Needs of youth workers & recommendations for facilitating trainings on climate change for young people

Youth workers have an increasingly important and recognized role. The methods of the non-formal education they use in their practice resonate very well with young people and successfully engage

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them on socially important topics. For this reason, even when dealing with more scientific issues, they must keep the audience's attention high by **using interactive tools or resources**. These materials must be adapted to the age group and combined with the modern didactic methods. Youth workers would also need some **theoretical preparation related to both climate change and fake news issues** in order to be able to provide feedback and answers to any questions or doubts addressed by the participants.

Therefore, youth workers need different **guides on how to incorporate the subject of environmental debate** in their trainings depending on the public they are trying to reach and their level of awareness to the subject. The main needs for youth workers are related to data and information about the local eco system and the local actions taken in their area to counter the damages of climate change. The key to facilitate a training on any subject is to **make it relatable** to the public, and here in our case by **focusing on narratives in the online platforms young people use** and the kind of topics they want to raise awareness about.

The youth workers we interviewed also shared with us their concrete technical recommendations on facilitating trainings especially designed for young people.

Format of the trainings

Our findings show that **online training is not the most effective approach** when it comes to youth. Face to face and field environment is considered to be the most effective methodology for such workshops. It is always more engaging than the online methodology where the participants cannot feel or sense the real environment. Online trainings usually work better with young people who are more active and engaged on a certain topic, and/or already know each other. In any case, the effectiveness of the online format also depends on people's digital literacy.

So, **face-to-face practice-oriented trainings**, taking place outside of people's daily surroundings (e.g. school) are the best way to engage young people in complex topics such as climate change. **Heterogeneous groups** (in terms of both knowledge level and age) of approx. 15 people seem to be more effective for some youth workers, as this would provide more opportunities for peer-to-peer exchange. If a training takes place at a different location (e.g. somewhere outside of town), it is recommended to last longer (up to 5 days). Training sessions of not more than 45-50 min are optimal in time - longer ones can hardly manage to keep young people's attention.

Content of the trainings

In terms of content, **visualisations and understandable comparisons** seem to work well with young people. Presenting the topics in a more relatable way by using **accessible language**, giving **examples** which are **closely related to their lives** - sometimes even geographically close to their environment. If the training foresees mostly theoretical explanations, with less practical activities included, sessions should be no longer than 20 min. Pre-distributing materials or assignments to be read/completed before the training rarely works with young people. Any tasks should be assigned

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on the spot during the training itself. Another option is setting an assignment to complete after the training, but only assuming there will be a follow-up and the group will be reunited again - e.g. between training sessions.

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