Climate box
UNBOX IT

Climate Education for Disadvantaged Adult

Transnational Research Report

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I. Executive Summary

The Climate Box Project seeks to strengthen the **climate awareness among disadvantage groups of people** by providing simple, entertaining and easy-to-understand learning materials. In order to make sure that the educational needs of the target group are best met by the project offers, partners conducted research and analysed existing approaches to climate education by a combination of desk research and interviews with educational and social professionals

Although climate change is recognised as an important issue in all partner countries and **political action** is being taken to adapt the economies and change citizens' behaviour in a way that is less damaging to the environment, in no country is the state of climate protection at a remotely satisfactory level, as actions on climate protection are a) partial and not systematic and b) inconclusive. Some of the major remaining challenges include the widespread use of **fossil fuels,** high levels of **personal consumption,** growing amounts of **waste,** and **air pollution.** Even more problematic, there are significant segments of society that **do not support policies** aimed at protecting the environment.

Still, a **strong consensus** exists in all partner countries that climate topics are important and should be addressed. There are numerous activist groups who are organising regular information and advocacy campaigns, which are often the focus of public attention and are increasingly getting the ears of policy-makers. A plethora of available **information resources** educate the public on the importance of climate topics.

However, the abstract recognition of climate as important does not necessarily translate to concrete actions for the majority of citizens. There are also notable differences between societal strata – younger, better educated, wealthier citizens show a much higher level of environmental concern. On the other hand, **older, less educated, poorer** citizens have a different sort of priorities, be it concern with everyday issues or a low level of trust in public authorities.

Economic factors have been demonstrated to affect all citizens' behaviour, regardless of their predisposition to behave in environmentally-friendly manner Among all groups of citizens, the measures which are most likely to be implemented are the ones which result in saving costs. People don't need to be further convinced of their merits, as they are immediately obvious.

Education is recognised as an important part of the solution, as a change in mindsets must be affected if the ambitious goals set in political strategies is ever to be realised. Partner countries have adapted strategic documents that bring these subjects into existing curricula. However, in many cases **educational standards are lacking** or incomplete, resulting in a variety of offerings of differing, and sometimes questionable, quality. Higher education institutions are providing a good variety of quality courses on climate topics, but their target group is limited in scope to people who already have significant expertise.

The general public, contrasted with school and university students, has relatively **few educational resources** at their disposal. That is not to say that information resources are insufficient, but structured courses following a clear methodology and curricula are mostly lacking in the field of adult

education. That effects the most likely users of Climate box - adults, especially socioeconomically disadvantaged ones, who are included in lifelong learning programmes and/or VET education.

There is a consensus among partner countries that disadvantaged adults are concerned with **issues they are facing in their daily lives,** and at best share a general understanding that preserving the climate is an important topic. They need to be sensitised about the ways they can make a difference, that the topic is not beyond their scope of action. Focusing on **simple, affordable action**, and its immediate, tangible **benefits**, can be an effective way to counteract the challenges of an established worldview, and difficult to dispel prejudices.

In order to facilitate the provision of educational offers to disadvantaged adults, partners have collected the most relevant **topics** that can interest them, a set of **methodologies** that are effective in adult education, especially in an online environment, examples of **personal behaviour** that can make in impact, as well as a collection of quality **educational resources** already available. These resources can be found in the following pages of the report.

II. Introduction

The Climate Box Project is based on the assumption that socio-economically disadvantaged groups and low-educated adults are less likely to obtain tailored information about climate issues and actively seek information about climate-related topics, as they are facing challenges related to their socio-economic status and may not perceive climate issues as their priority. Thus, information on climate issues and awareness raising activities should be tailored to their specific needs and should be implemented in those courses that these learners are attending anyway - such as integration, language or labour market courses.

That is why the partners set out to research and analyse existing approaches to climate education. They did this by a combination of desk research and interviews with educational and social professionals. Each partner conducted a total of 8 interviews with experts in adult education, e-learning, and climate education. The findings of the interviews stimulated further research.

Partners started by analysing the overall state of climate protection of their countries, the main challenges and existing policies to address them. They tried to find out that the general public's attitude towards climate topics is, and now, if at all, disadvantaged adults differ in that aspect. National educational frameworks on climate education were researched, followed by key actors and existing educational resources.

With the help of experts, the most important topics relevant for climate education of disadvantaged adults were identified. Experts also recommended a number of pedagogical and methodological approaches especially effective in working with the target group, and warned of others which are counterproductive. Partners identified examples of personal behaviour that can make in impact, as well as a collection of quality educational resources already available in their countries.

The findings of this report will serve as a basis for the development of the Climate Box Training materials and other project outputs. They are intended to make sure that the educational needs of the target group are best met by the project offers.

III. Analysis of partner countries

1. Climate protection – achievements and remaining challenges

1.1. Overview

Climate change is **recognised** as an important issue in all partner countries. **Political action** is being taken to adapt the economies and change citizens' behaviour in a way that is less damaging to the environment. These actions build upon existing traditions and institutions of protecting the environment. Ambitious goals are being defined for the distant future.

However, in no country is the state of climate protection at a remotely satisfactory level. Even countries like Austria, that manage to produce considerable amounts of green energy, still have very high per capita emissions. Action on climate protection, as it stands now, is a) **partial** and not systematic and b) **inconclusive**.

High levels of **personal consumption** causing a considerable degree of pollution remain a problem in all partner countries. **Coal** is still widely used as an energy source – even Germany, where eco-sentiments are strong, plans to continue burning coal for close to two more decades. An increasing amount of **waste** is being produced that stretches waste-disposal and recycling services to their limits. **Air pollution** is becoming a problem in many major cities, causing widespread health concerns. Even more problematic, there are significant segments of society that **don't support policies** aimed at protecting the environment.

Education is recognised as an important part of the solution. A change in mindsets must be affected if the ambitious goals set in political strategies are ever to be realised. All partner countries are in agreement on the importance of education in the fight for mitigating the effects of climate change. Strategic documents have already been implemented that bring these subjects into existing curricula.

1.2. Austria

Austria suffers from the effects of climate change. The number of days with average temperature above 30 degrees Celsius has increased from 2 in the beginning of the 20th century to 15 in 2018 to a projected 30 in 2030. This lead to 766 deaths from heat strokes in 2018, almost double the casualties of traffic accidents. The droughts negatively affect the agricultural sector. Winter tourism is affected by the melting of glaciers in the Alps, which lost approximately a third of their size since the 1980ies. The total economic costs of climate change are estimated to amount to a billion euro per year.

According to the International Climate Change Performance Index by Germanwatch, Austria is still in 35th place out of 57 countries. Despite slight improvements compared to the previous year, Austria

is still among the **'low performers'** in 35th place out of 57 countries surveyed. Especially in the sub-areas of the development of greenhouse gas emissions and **energy consumption**, the Climate Protection Index gives Austria a damning report card. The per capita **emissions** in this country are so **high** at 9 t CO2/capita that Austria lands in 45th place. The high energy consumption is also criticised. If one compares energy consumption with the level necessary to comply with the 2°C limit, Austria only comes in 50th place.

Only the share of **renewable energies** shows a **positive picture** in Austria. With 11th place out of 57, both the share and the targets in this area are welcomed. However, the criticism is that there is comparatively little dynamism in the expansion of renewable energies. In a European comparison, Austria is behind eleven other EU countries (UK, Bulgaria, Estonia, Ireland, Croatia, Lithuania, Finland, Denmark, Sweden, Norway and Latvia) in the trend towards more renewable energy.

Loss of biodiversity in Austria: Since the 1980s, the hare has lost 60 % of its population. The number of birds, fish, mammals, amphibians and reptiles has shrunk by an average of 70 % over the past 30 years. Experts estimate that the figure for insect mortality from Germany also applies approximately to Austria - then 76 % of the insects counted in 1989 are missing today.

Perhaps due to an understanding of the seriousness of the challenges the country faces, the Austrian Government has been among the **leaders** in Europe preparing a response to climate change. The country adopted a National Adaptation Strategy already in 2012. In 2020, a new government including the Green Party as coalition partner adopted ambitions climate goals:

- Austria will seek to be carbon neutral by 2040, and put a price on CO2 emissions.
- By 2030, all of Austria's electricity is to be produced by renewable energy sources (Hydro- and Wind-power accounted for 67% of the energy production in 2019).

Flying will become more expensive in a bid to make taking the train more attractive.

1.3. Belgium

The topic of climate protection is becoming more and more present in Belgium. It has more recognition, and it is talked about as an important education point, which is an improvement compared to the past. New strategies have been put in place on the local, national, and international level and concrete goals like the Green Deal are contributing greatly. In spite of that, Belgium's fight against climate change is in a **downward spiral** dropping from 31st cx 2019 to 40th place in 2021 the "Climate Change Performance Index".

According to a report commissioned by Greenpeace, Belgium also developed a **long-term political vision** enabling it to reduce its greenhouse gas emissions by 80% between now and 2050. It must include efforts in all sectors (industry, electricity production, households and transport). The fight against climate change will require deep changes in the Belgian energy system. It must therefore also be perceived as an opportunity for Belgium to reduce its **energy dependency** and increase the safety of its supplies. In 2004, Belgium was importing almost all its primary energy sources (oil, gas, coal and uranium) and this put the Belgian economy at the mercy of fluctuations in world raw material prices and the expected rise in the costs of fuels as a result of their increasing scarcity.

Society is facing the effects of climate change around the world on a daily basis, and it makes people realise the climate crisis reality but does not make them change their minds. More and more natural disasters are destroying people's lives and destroying the environment on which most people depend. **Scientific work** on climate change and protection is conducted. Recent studies have focused on more advanced research such as predictions and modelling. Some of the developments include zero impact tourism destinations, restorative and regenerative economy, transition to renewable energy, in house heating with environmentally friendly methods, transport (electric cars), banned fossil fuel engine cars in cities, reduction of taxes for electric vehicles, sustainable production development, recycling and reusing, etc. These developments are positive points.

The main challenges still remaining according to the experts are:

- A lack of competent educators and/or trainers
- Environmentally conscious production / initiatives are still seen as either expensive (no economic benefit), unpopular (no personal satisfaction) and inconvenient (more difficult to adapt to everyday life). Everything, from products to ideas should be very easy to use, easily obtained and be more attractive than the non-environmental.
- Adapted Legislations at local and global levels; compatibility of private and public units towards minimisation of impact; minimal people perceptions and actions
- To move from declarations to political decisions and actions. Decision makers should take big initiatives and people will adapt. Unfortunately, the economy and the way of life do not allow for an easy transition.
- To challenge the existing way of living - people generally tend to choose the most convenient ways.
- Change of the consumer culture, (e.g. waste of food)

1.4. Bulgaria

Bulgaria adopted a Law on Climate Change Mitigation in 2014. The **Minister of Environment and Water** is the competent body for the overall conducting the state policy on climate change mitigation. Bulgaria adopted three National action plans in the area of climate change prior to 2020. The focus in the future lies with creating an **Integrated energetics and climate action plan**, which has peen adopted as a proposal, but has not entered into effect yet.

Coal accounted for 40% of Bulgarian energy production in 2019. Although coal electricity has a three times higher cost than that produced by the new solar power plants (put into operation in 2020 without any government subsidies), this difference is bound to increase over time due to European policies, the government's plans do not include a transition away from coal. There are also no decentralized energy communities, the so-called smart grids, modern business models, hydrogen projects, etc.

In the last few years, the government spent over 500 million Euro trying to preserve the massive coal-powered plant 'Martisa-Iztok 2' from bankruptcy. Bulgarian parliament voted to keep the supporting measures 'regardless on any statements of the European commission on the matter'. Bulgaria considers its coal-power plants a strategic asset for national security (97% of the coal is

produced locally) and plans to continue their operation, with some reduction, well into the 2050ies. A less publicised reason is the absence of any policies on re-qualification of the thousands of staff working in the coal industry, a fact made apparent by the closure of the 'Bobov dol' coal mines, where over 400 miners were left jobless.

The national network operator has continued to control (and thus to **limit) grid access of renewable electricity** projects. There is no policy mechanism in place that allows a small cogeneration plant based on RES to sell its heat for district heating where available.

According to 'Greenpeace' and other environmental protection organisations, thermal power plants have been **burning hundreds of tons of waste and RDF** over the course of the last few years. Allegedly, the power plants have started this practice in violation of national and European law in order to exploit carbon quotas at the expense of considerable environmental pollution, as the plants are not equipped with the necessary filtration equipment to prevent the release of heavy metals, dioxins and furans into the air.

Air quality, in particular **PM10 pollution** continues to be a major problem for ambient air quality in the country. There is still a very high percentage (65.1%) of the population living with excessive levels of PM10 pollution. The main causes of excessive pollution with particulate matter are heating with solid fuel during the winter season, sanding and salting of streets and roads, emissions from road and public transport.

On the positive side, **greenhouse gas emissions per capita have decreased** from 13.0 tons of CO2-eq. in 1988 up to 8.3 tons of CO2-eq. in 2018. According to this indicator, the Republic of Bulgaria is approaching the average for the European Union. In the period 2000 - 2014 the share of transport in the final consumption of fuels and energy increased from 21.5% to 33.2%. The main consumer is automotive transport, which in 2014 consumed 92.9% of the total amount of energy used in the sector.

Bulgaria continues to face challenges regarding the handling of **waste**. Only 36% of the waste submitted for treatment is recovered, including by recycling. The share of recycled paper is the largest (52%), followed by recycled glass (20%) and plastic packaging (17%). However, in 2013, 2212 kt of municipal waste was stored in depos and this still remains the most used method in the country for treatment of municipal waste.

1.5. Germany

Climate protection is becoming an increasingly relevant and present topic in Germany. There have been many positive developments in recent years. The topic of climate change has arrived in **education** - but not yet as an integral part of school education, for example. So far, the overarching theme is still sustainable development - there have also been initiatives for some years and also specifications as to which topics must be taught in schools. Unfortunately, it is still the case that the topic of climate change is not dealt with in schools as it should be if we want to ensure that the climate goals will be achieved. Many get their information on the subject from the media.

To some extent, it is even omnipresent, but it is still treated superficially and the corresponding strategies and conclusions for action are lacking, even though there are many campaigns, initiatives and projects relating to the topic and many people themselves try to make their own individual contribution. Also, it is a topic shaped by elitism.

A positive development is that the **young population** in particular is increasingly taking a critical view of the issue and pushing it forward. There are also a number of measures on the part of the government, but overall they do not seem to be implemented efficiently and are accompanied by many compromise solutions. The main challenge is to increase the speed of action, to handle the topic on a policy level and get everyone to participate, even if this means lifestyle changes.

1.6. Italy

In Italy, Environmental protection has been a **key element of policy-making** since 1976 when the Italian government passed the first law on environmental protection (water protection law n°319 10th of May 1976). Since then, pushed by the public opinion, several steps have been made completely reshaping the legislative framework and including environmental protection standards in all economic and manufacturing sectors. Already on 1983 Italy had its own ministry for environmental protection, which then grew in importance and functions since the ratification of the Kyoto protocol in 2002. Climate change and climate action has become a **major public debate point** since the Kyoto protocol. Since then, the Italian people has increasingly become aware of the perils connected with man-made global warming. According to an European Investment Bank's study, in 2018 67% of the Italians interviewed saw climate change as a direct threat. Roughly the same percentage (62%) agreed that climate change is a direct consequences of CO2 emissions from all sort of human activities on the planet.

In recent years, Since the Paris agreement negotiation brought back the topic on mainstream television**, the engagement of Italians with climate change has grown in strength**, especially among younger generation. As an example of that, the Fridays for Future youth protest movement, started by the young activist Greta Thumberg, achieved quite a resounding popularity among young Italians who joined the demonstrative marches in large numbers in all major Italian cities.

As an exemplar element of the level of awareness on the urgency of action required to tackle climate change, the Italian government in 2019 made mandatory for all school curricula to include Climate Change in their lessons plan.

1.7. Spain

Climate protection has been a topic in the Spanish government since the beginning of the 21st century, with many **new strategies and papers** being published in line with European and international guidelines. Many educational programs regarding climate change are designed for pupils in the education system with projects and information campaigns between 2018 and the present also aiming at other target groups. Following the European climate protection standards,

Spain also separates the topic in multiple sections, as can be seen on official government supported websites,

They separate the topic into subtopics like climate, emission, impact and vulnerabilities, etc. On a national level, the government especially facilitates PIMA projects (Planes de Impulso al Medio Ambiente) which target areas and target groups specifically: waste reduction (PIMA Residuos), hotel sector (PIMA Sol), companies (PIMA Empresa) or also supermarkets (PIMA Frío), just to name a few.

The government also compiles **lists of climate protection activities** for each year since 2012 with the number of entries constantly rising.

These initiatives are less long-term projects but are **direct actions** taken towards a more climate friendly future, like exchanging transport vehicles for more environmentally friendly vehicles. The active area of these activities is spread very widely across Spain.

Remaining challenges for climate education and climate protection are mainly due to **different regulations** in the Spanish autonomous communities. Spain sports 17 autonomous communities and 2 autonomous cities, resulting in different policies and projects for regions with more projects focused on specific areas than on an overall national level. This challenge is mostly addressed through provision of online materials which can be accessed internationally and for free.

2. Climate awareness and recognition of climate topics

2.1. Overview

The situation regarding the overall awareness of climate topics on a broad societal level is mixed. On the positive side, a **strong consensus** exists in all partner countries that climate topics are important and should be addressed. There are **numerous activist groups** who are organising regular information and advocacy campaigns and are increasingly getting the ears of policy-makers. **Information campaigns** are wide in scope and often the focus of public attention. A plethora of available **information resources** educate the public on the importance of climate topics.

However, the abstract recognition of climate as important does not necessarily translate to **concrete actions** for the majority of citizens. Their actions, much like government policy, are yet unsystematic and do not reflect a general adoption of an eco-friendly lifestyle. There are also notable differences between societal strata – younger, better educated, wealthier citizens show a much higher level of environmental concern. On the other hand, **older, less educated, poorer** citizens have a different sort of priorities. For some of them the environment is simply less important because they have to face pressing concerns like securing housing, food etc. Yet others have a **low level of thrust** in public authorities and are likely to believe in conspiracy theories claiming humans aren't really influencing the climate, and the topic is simply an instrument for government control.

There are factors which affect all citizens' behaviour, regardless of their predisposition to behave in environmentally-friendly manner. These are the **economic factors**. Among all groups of citizens, the measures which are most likely to be implemented are the ones which result in saving costs. Expensive options, like electric cars at the moment, are chosen by the relatively few people who can

afford them. Options that **save resources**, like reduction of waste and buying second-hand, are popular among everyone. People don't need to be further convinced of their merits, as they are immediately obvious.

2.2. Austria

The electoral success of the Green Party in 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 an actual relevant sinus-milieu social survey (trying not to define social groups solely by their social position - but also to include personal life orientation, which includes values and life goals as well as attitudes towards social change) of the initiative MUTTER ERDE (mother earth) by the ORF (Austrian Broadcasting Corporation), Global 2000 and other Austrian leading environmental and nature conversation organisations, measures against the climate crisis, with generally find broad support among the domestic population. 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%** positive responses behind. This is even more true for trust in political measures.

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 elite**s 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 percent of respondents say they have already taken steps in this direction. As many as 65 percent 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.

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.

2.3. Belgium

The climate related topics are important and recognized as such. According to the National Climate Survey (2017) **85 % of Belgians** expressed the opinion that climate change is a problem requiring urgent action. There are also actions from youth demanding from the government to act which is a positive point. One example included thousands of Belgian students who came together in 2019 and protested for better government action related to climate changes.

Belgian environmentalists and citizens gather on a regular basis in cities for simultaneous demonstrations to draw attention to climate change. Many projects, programs and campaigns are done to raise awareness. In recent years there has been more and more **information campaigns**; it is a positive sign and people are a bit more conscious. Local campaigns such as Clean The Ocean, Clean the River and etc also significantly contribute to the state of climate awareness. There are multiple campaigns on TV; environment week in kindergartens and schools. There are thousands of informational campaings implemented by international, national and local environment organizations especially in terms of more sustainable living, recycling and conservation of resources. Some examples include Greenpeace International, the Fridays for Future movement, Gretha Thunberg's global campaign.

2.4. Bulgaria

A Eurobarometer survey carried out in December 2019 revealed that 91 % of Bulgarians consider the environment to be '**fairly important'** to 'very important' personally for them. There is a strong consensus that neither the business not government on any levels are doing enough to protect the environment. 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. 82% think that clothes should be available at the lowest price regardless of the conditions they were made in – **economic factors** are still considered to be of **primary importance** to Bulgarian consumers.

The main source of information on the environment is clearly the television (80 %), followed by the Internet (26%) and personal connections – friends and colleagues (25%).

According to the survey, the main topics that concern Bulgarian citizens are:

- Air pollution (61%)
- The Growing amount of waste (47%)
- Climate change (43%)
- The Pollution of water resources / soil degradation (41%)

The majority of Bulgarian citizens do not take any personal action to preserve the environment. The most widespread actions include:

- buying local products 45%
- cutting down energy consumption 34%;

- avoided using single-use plastics 32 %;

Waste separation is only a third of the EU average (23 to 66 %). Buying local and buying second-hand are the only actions that are more prevalent than the EU average, and both of them can be explained by economic reasons rather than concern for the environment.

Experts also confirm the results of the research. According to them, over **70% of people are aware** that there are climate changes, they believe in the anthropogenic factor and are ready to do something. They feel the changes – floods, extreme drought. Especially the **people in rural areas** who work in the area of agriculture experience the changes first hand and connect them to the climate. So it can be said that the understanding is related to **personal experience**, not so much to information campaigns. **Citizen participation** in the process of climate protection has **improved**. More and more people are interested in the topic and signal about the issues they notice. They also want to participate in the follow-up discussions. One example of such an initiative is putting stations for **air quality** monitoring – citizens have created hundreds of them in the capital alone, compared to less than ten run by the government. More and more people more people are getting sensitive about the topic of air quality and coal burning.

2.5. Germany

Climate topics are **recognised** as important in German society. Many different information campaigns are in existence and citizens receive useful tips all the time, However, for many of them these ideas are **not yet reflected in their personal actions.** They are aware of the issues and may even consider them important, but they may not know how to actually implement them or have not yet internalised them.

2.6. Italy

Climate awareness therefore and climate change are widely discussed topics and **valued** by a decent chunk of the Italian society. This is also due to the efforts and outreach of several civil society organizations such as Legambiente, which has been campaigning for 40 years, educating and raising awareness on the issue, together with the Italian branch of the WWF and Greenpeace. Since its birth, Legambiente alone now counts for more than **115 thousands members** and active supporters as well as 18 regional office throughout the Italian territory. Legambiente alone has more than 28 currently active campaigns on climate change and environmental protection including the “treno verde” initiative, a public engagement campaign with which a train travels across the Italian railway system to visit all majors 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, each year with a different focus without losing steam. This year’s theme will be “change climate change”.

Moreover, some Italian scientists and researchers recently started to **communicate through TV programmes** and social media the urgency of climate change. Most recently, Fridays for Future and youth strikes together with the new “extinction rebellion” activist network campaigns gave

additional traction to climate action as well as increasing the presence of climate change and mitigation & adaptation policy-making in the public debate.

2.7. Spain

Despite being a focal point of Spanish policies for years, climate protection in education is still mostly addressed as a less prioritised topic through schools and official education institutions, as well as in online **materials available for downloading**, enabling other interested parties to access the materials. Most projects target **specific audiences** in education, while information campaigns with summaries of information, also address general audiences. One example of this is the more recent Climate change portal of the Junta de Andalucía.

Other autonomies offer similar collections of information. Their pages provides not only information for general audiences and educational institutions but also give information for occupational climate protection in areas like agriculture, the chemical sector, as well as sectors like fishing and sanitation, among many others.

Especially in recent years, the official authorities of the autonomous communities actively engage in such portals and continue adding information materials in PDF, podcast and other media forms.

A survey conducted by the European Commission in December 2019 also shows that the Spanish population regards the topic of climate change and climate protection as important, even slightly **over the European average** regarding their concerns of climate change.

3. Climate education

3.1. Overview

The importance of climate education has been universally realised, and a number of state, local, and non-governmental actors are active in developing and providing trainings on climate-related topics. These have become a **mandatory part of school curricula** in all partner countries – the school education being the main focal point of educational efforts. However, in many cases **educational standards are lacking** or incomplete, resulting in a variety of offerings of differing, and sometimes questionable, quality. **Higher education institutions** are providing a good variety of quality courses on climate topics, but these are mainly directed at people who are already interested in developing their competences regarding the preservation of the environment.

The general public, contrasted with school and university students, has relatively **few educational resource**s at their disposal. That is not to say that **information resources** are lacking – a great variety of materials are present on many different topics, media, and levels of difficulty, but these resources presuppose an active interest on part of the citizens to develop their understanding of climate topics. In contrast, structured courses following a clear methodology and curricula are mostly lacking in the field of adult education. A trainer who wants to introduce climate topics within the framework of a course with adults, has few options: making use of an existing course directed at a school (too easy)

or university (too hard) level, or develop their own training based on information resources targeting adults.

3.2. Austria

The **Federal Ministry for Education, Science and Research** (https://www.bmbwf.gv.at/) 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" (https://www.bmbwf.gv.at/Themen/schule/schulrecht/rs/1997-2017/2014_20.html)

The **Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology** (https://www.bmk.gv.at/) coordinates the different actors acting to preserve the climate and contains a large collection of links and resources on their website.

klimaaktiv (https://www.klimaaktiv.at/) is an initiative of the ministry hat 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 (https://www.klimabuendnis.at/) 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 (https://www.oekolog.at/) 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 (https://www.wwf.at/de/ueber-uns/) is active in the field of climate education (see next section)

Wir Leben Nachhaltig (https://www.wir-leben-nachhaltig.at/) 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.

The **Austrian adult education centres** (VHS - "Volkshochschulen", association of Austrian Adult Education Centres: https://www.vhs.or.at/) offer a wide range of opportunities for further education in environmental protection and sustainability. The VHS see themselves as educational institutions committed to democracy, ideologically bound to human rights and independent of political parties.

They 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 further 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".

According to an OECD study, **participation rates in learning among adults are still low** in Austria, in particular among low-skilled workers, and there are a range of barriers in engaging adult learning. Among the barriers, time-related barriers are the most prevalent, e.g. about 70% of workers (aged 19-65) who wanted to participate in learning activities but were not able to, had time constraints: they were too busy at work, had no time because of child care or family responsibilities, or the training course was offered at an inconvenient time or place.

3.3. Belgium

The Belgian government set goals related to Climate change and climate preservation in 2010 in the **Belgium National climate change adaptation strategy** (https://www.cncnkc.be/sites/default/files/report/file/nap_en.pdf). The strategy describes the main climate change impacts, the existing adaptation responses, a roadmap to a future National Adaptation Plan (NAP) and several policy guidelines for the further development of adaptation policy. In addition, as part of the EU Belgium conducts actions in line with the Green Deal and others like Paris Convention. There are examples of the educational system evolving around this matter like a **course on climate change** launched at University of Antwerp (https://www.uantwerpen.be/en/study/programmes/allprogrammes/postgraduate-energy-%20climate/).

Belgium has three **autonomous education systems** (for the Flemish Community, the French Community and the German-speaking Community), and the role of the federal government is limited to determining the duration and age range of compulsory education, establishing the minimum requirements for the delivery of recognised qualifications and setting general retirement regulations, which also affect teachers and educational staff. All schools in Belgium have freedom to develop their own curricula, assessments and self- evaluations. Schools can be classified in three different funding/management categories: publicly funded education managed by the Community authorities, grant-aided education managed by other levels of public government (such as cities, municipalities and provinces), and grant-aided private education. Schools that are not grant-aided (fully private) represent less than 1% of the school offer.

Lifelong guidance in formal adult education is also the responsibility of the **adult education centres** (CVOs) and **centres for basic education** (CBEs), who offer a variety of learner guidance and orientation services – including study support and career counselling. Lifelong guidance is also seen in non-formal adult education, where several socio-cultural organisations initiate lifelong guidance projects and activities. The **Flemish Public Employment Service**, VDAB, is a Flemish government institution operating under a management contract. VDAB connects jobseekers with employers and is committed to supporting every jobseeker in the search of a matching job (social function). The agency aims to be a reliable partner in HR policy and supports job vacancies to be filled as quickly and efficiently as possible (economic function). To meet these ends, VDAB offers job placement, training and education, career guidance and outplacement. Actiris provides similar services in the Brussels Capital Region, with a focus on qualitative guidance for the unemployed looking for qualitative. VDAB also quality monitors the recognized career guidance centres for people in (self-)employment. Career guidance for adults is also provided through other organisations, including specialized services for entrepreneurs (VLAIO) or people with special needs (GTB).

Integration pathways for newcomers are coordinated and facilitated by the **Agencies for Integration and Citizenship**. They coordinate and facilitate integration pathways for newcomers. Also, several youth organisations offer guidance services, often aiming at specific target groups such as young people at risk of early school leaving or for young people in a NEET situation.

Enabel (https://www.enabel.be/content/enabel-belgium), the Belgian development agency executes the Belgian governmental cooperation and provides training on global issues, employment for young development cooperation workers, promotion of fair and sustainable trade and global citizenship education in schools.

The **socio-occupational integration scheme** (ISP) is aimed at unemployed, low-skilled job- seekers over the age of 18 in both the Walloon Region and the Brussels-Capital Region. However, the exact conditions depend on the region and the training agency. In the Walloon Region, beneficiaries of the scheme must be registered with Forem as jobseekers. The socio-occupational integration agencies (OISPs) are accessible to those who have not obtained the upper secondary education certificate (CESS), or an equivalent or higher qualification, while the on-the-job training enterprises (EFTs) are accessible to those who hold neither the lower secondary education certificate (CE1D), nor the second-stage secondary education certificate (CESDD), nor an equivalent or higher qualification. Moreover, the EFTs can take on anyone entitled to social integration support who meets the same conditions in terms of qualifications as the job-seekers. The Walloon integrated socio-occupational integration scheme also applies to: job-seekers who have been unemployed for at least 24 months (the long-term unemployed); job-seekers who have re-entered the job market after at least three years out of work (returners); prisoners and those who have been committed, who are due for release within two years; foreigners who have not been ordered to leave the country and who meet the qualification conditions. Under certain conditions, OISPs and EFTs may be authorized to take on unemployed job- seekers and claimants of work incapacity benefits. In the Brussels-Capital Region, beneficiaries of the ISP scheme must not have obtained the upper secondary education certificate (CESS) or an equivalent qualification. The EFTs also have the aim of providing basic education and training within a lifelong learning perspective. Their target public is those aged 18 or over who do not

hold a second-stage secondary education certificate, and who are either long-term unemployed or recipients of the minimum integration income.

3.4. Bulgaria

The Convention on climate change (1992) set standards for climate change education in partner countries. The Paris agreement re-confirmed that signatories must set standstds for climate change education. Yet there is currently **no universal framework for training in climate change** and environmental protection In Bulgaria. At the present stage, only a few separate lessons exist in the school curriculum. In that aspect, Bulgaria is comparable to the neighbouring Balkan countries, having been ignoring the topics of climate change for decades. The NGO sector is an active motor of change. In the last two years many more organisations got involved with the topics of climate, as funding has increased dramatically. The whole society cannot be reached, but NGOs can target the area of non-formal education.

Most existing project target the education of **youth** at the school level, but there are some actors – all of them in the NGO sector – who organise training and awareness raising campaigns targeted at the wider society.

Recently, a partnership between a state agency, **The National Trust Eco Fund** and a German ministry, set about creating textbooks for all school ages. Their aim is to integrate climate education in all subjects.They create train-the-trainer courses for the authors of textbooks. However, the academics that create textbooks often show considerable resistance towards being educated by outsiders. The process is far from finalised.

Universities are ahead of the curve, as they are more flexible the their approach.There is a Master's degree on Climate Management in Sofia University, and plans to create one in NBU. Some other universities adapt separate courses

The **Sofia Municipality** led the approach to adopt the UNDP Climate Box – the Ministry of has it in English, as no Bulgarian version exists:
https://www.eurasia.undp.org/content/rbec/en/home/library/environment_energy/climate-box.html

The **Climate Coalition Bulgaria** unites actors who make an effort to mitigate the effects of climate change.

The Environmental Association "**For the Earth**" issues a series of scientific publications presenting in understandable language the impact of air quality on various aspects of our lives. They also conducted trainings about how to communicate the climate topic – ambassadors (internal training – 100 people).

The '**Green Balkans**' Association develops educational programs and works together with educational institutions. Their efforts are focused on enriching and diversifying the curriculum, improving the education of students, their general culture and building an attitude towards nature conservation.

Greenpeace Bulgaria organise public awareness actions. Their recent activities involve awareness raining 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 to the mayor of Sofia together with a petition by 5 000 citizens to improve the air quality in the capital.

In 2020, **WWF Bulgaria** created a new department - "Education, Innovation and Youth Engagement", with the focus on the 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 and together with them.

WWF also have 5 educational clips on Ucha.se – the most popular educational platform.

A 270 pages document on climate change called Climate Box (no relation!) has been translated from German and is available in pdf form.

In addition, there are organisations with a narrower focus of activities, for example:

- 'Veloevolution' promote the use of bicycles as a mode of urban transport.
- 'Zero Waste' advocate for a lifestyle producing less waste.

The preferred channel of communication of most NGOs are mainly **the social media.** If someone is isolated (by circumstances or on purpose) from those media, the likelihood of hearing of these organisations is slim. The need for more analogue channels to be used in addition to the digital ones is clearly realised. In order for communication campaigns to be most effective, all organisations need to combine effort and make campaigns on the state level.

3.5. 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: https://www.klimaschutz.de/en/facts-and-figures) that funded a broad spectrum of projects and actions. In addition, Germany has committed itself to the 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 is 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. (https://www.fes.de/themenportal-bildung-arbeit-digitalisierung/bildung/artikelseite-bildungsblog/klimabildung-in-zeiten-der-krise)

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.

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 kindergartens, 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.

3.6. Italy

Climate education in Italy has recently (2019) become a **mandatory study subject** for **all school levels** of education (from elementary to high school).

Despite this, so far climate and environmental education has been mostly related to a **university level** study subject (engineers, architects, biologists, chemists, geologists and several other scientific university curricula all 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 and easily understandable by the viewer.

3.7. Spain

Many projects and programs are aimed at the primary target group of **schools** and being used in regular classes as well as programs created for specific sectors like industrial companies, fishing and food sector etc. Most government and regional initiatives target specific occupational sectors or the education sector. Although the materials are provided **digitally and publicly**, with only a few exceptions.

One highly disregarded field of occupation is the agricultural sector and the accompanying pollution, waste and water consumption.

Spanish information portals focus highly on **self-awareness** and many information materials address one's own influence on the climate. One example is the „Guía práctica en la compra" by the **Instituto para la Diversificación y el Ahorro de Energía** (IDAE), also provided on the portal by the Junto de Andalucía addressing practical implementations one can apply in their daily life.

Overall, climate education is mostly learned in schools, through direct application in work sectors and through self-initiative by informing oneself about practical improvements in our daily life.

4. Perception of climate topics among disadvantaged adults

4.1. Overview

The most likely users of Climate box would be adults who are generally included in lifelong learning programmes and/or VET education. Among these, disadvantaged adults (economically and or socially) are a key focus. Usually, these adult learners face challenges with their learning due to the often-low educational levels and the general stressful existence they experience because of the lack of financial security and/or a support network.

While the younger generation is increasingly seeing climate topics as truly important, this is not the case with disadvantaged adults. At best, there is a **general understanding** that this is an important topic, but no concrete implications follow from it. At worst, the topic is **ignored** altogether. Young people are sensitised about climate topics at school and by the media, but disadvantaged adults are not directly influenced by these channels, although an indirect inference through **children** educating their parents in noticeable.

There is a consensus among partner countries that disadvantaged adults are concerned with **issues they are facing in their daily lives.** Many of them cannot afford to think long-term, and to consider the impact of their actions on the world and wider society. Instead, they need to see the immediate link between climate change and their daily lives. They need to be sensitised about **the ways they can make a difference**, that the topic is not beyond their scope of action. **Economic motivation** is of prime importance – since they are likely already facing financial challenges, any means by which they can realise a saving will be welcomed and will likely lead to a lasting change of behaviour.

Inducing behavioural change in adults is, in general, considered as challenging, as they already have an established worldview, and sometimes hold many prejudices regarding the climate impact of man, which may be difficult to dispel. Focusing in simple, affordable action, and its immediate, tangible benefits, can be an effective way to counteract these challenges.

4.2. Austria

According to Statistics Austria's Mikrozensus, which surveys the environmental behaviour of Austrians every five years: It is striking that in 2015 almost all areas **younger and more highly educated people are trying to live more sustainably.** Social researchers (e.g. Karl-Michael Brunner) see one or even the reason for this in the correlation with disposable income. Whereas in the last Mikrozensus survey (2011) the increasing volume of traffic was the most burning environmental issue, Austrians are currently primarily concerned about the **greenhouse effect** and **climate change**.

Austrians pay particular attention to sustainability in the **food sector**. Organic food, however, perhaps contrary to the perception of many, remains a niche, accounting for only about 6.5% in 2016. Austrians show environmental awareness when it comes to **waste separation**. 99 percent of the population collect waste paper separately, followed by waste glass (97.7 percent). Organic waste is disposed of separately least often (85 percent). Unlike food, only 45% pay attention to the environment when buying IT equipment.

In 2015, more than 90% of the Austrian population used the car for their daily journeys at least occasionally (driving themselves or riding with others), 35.3% used it daily. Public transport by train, bus, tram and underground was used by more than 60% of the respondents at least occasionally, 16.6% used it daily. 69.7% of the respondents find public transport attractive, poor connections (71.5%) and insufficient interval density (49.9%) were named as the main reasons for a lack of attractiveness of public transport.

The least relevance - especially among people with little education - is assigned to the topic of raw material and energy consumption.

According to experts, the primary focus on climate topics lies with the **school education,** and is still **mostly absent in adult education**. Because of that, in adults exists a very broad spectrum, at the edges of which are people who are very ignorant or who play down the issue to an extreme degree, to people who have very strong fears about it.

As climate and the environment are not regarded an educational topic for adults at the moment, many see it more as a marginal issue. In general, disadvantaged adults already have an awareness about the environment, but the information about why and how to implement concrete steps is often missing – not all people are dealing with it in their everyday lives. Some of the adults are increasingly aware of it through their **children**, i.e. indirectly. The topic is increasingly carried into the families through the children. Another channel disadvantaged adults use is the **media**, but many people absorb a lot of information without thinking about it. As a result, disadvantaged adults have **many prejudices** about the impact of their lifestyle on the environment. it should be noted that some of them correspond to reality - e.g. they are not responsible for the majority of CO2 emissions (worldwide, the poorest 50% of people are responsible for only 10% of total lifestyle consumption emissions.

4.3. Belgium

The field of climate awareness among disadvantaged adults requires a more in-depth investigation of of the kinds of difficulties they are facing. However, some trends are already apparent.

More work need to be put into making climate topic a more approachable and attractive subject; at the moment, the main **focus is on younger people**; on the other hand, a new generation of adults are incredibly sensitized towards the climate topic and should not be classed differently.

Due to their status, disadvantaged adults are concerned with **issues facing in their daily lives** and they might not be so sensitive with climate and at present, the issue is not seen as relevant. It is perceived there is not much awareness on climate crisis, climate justice and the new green deals, that these adults have no perception and most of them take it as the natural cycle of the earth.

Some adults see the topic as **important in general**, but since it is usually not their priority, they do not focus on it. Economic topics are definitely prioritised.

Disadvantaged adults need to be sensitised about climate topics depending on which group they are in. We can assume that a disadvantaged adult may be interested in individual contributions. It dependis on the type of disadvantage; if we are speaking about economic disadvantages, adults could be sensitised on the topics through traditional channels, in order to create individual impact on various spheres of their life; in case the disadvantage is of medical background, the individual might struggle with the usual policies as per his or her needs (for example, it is very difficult to live a sustainable life if you depend on single-use medical supplies).

It is important to develop awareness that climate change has an **immediate impact** on people's life and quality of life trough data, research, reports. The main idea is to offer a space where they would prioritise the topic, especially in terms of providing strong support to those who need it.

4.4. Bulgaria

Surveys show drastically varying results on the perception of climate topics: Some suggest a **lack of understanding** of the topic. In general, it can be said that in the last 10 years, the recognition of these topics has increased considerably. Still, the older generation (the majority of the population) does not understand 'green' topics. Adults in general are a problematic group – they **hardly change their habits**. It's hard to sell to them the idea that there is a need for change. It's easier to change human behaviour if there are regulations in place and the conditions are good, so support from the educational system is needed, as well as an informational campaign that explains the issues.

Disadvantaged adults in general have a limited interest in climate topics as their very condition forces them to spend most of their time thinking or acting to provide themselves and their family with basic needs.

A representative survey on the attitude of the population towards plastic pollution was carried out by 'Za Zemiata' in 2020. 90% of the Bulgarian population are worried about the harm caused by **plastic pollution** to the environment. 82% are concerned about the consequences for their health.

54% agree that the users should take the main responsibility for reducing the amount of pollution. 78% think that giving up on single-use plastics wouldn't be hard. 63% are willing to give up on plastic bags, 42% - on paper cups; 35% - on plastic bottles and single-use plastic food boxes, 13% - on wet napkins. 39% are willing to recycle plastic waste.

Energy is a clear issue for most Bulgarians. 40 % of households spend more than 10% of their incomes on heating. The main challenge is the very low energy efficiency – up to 4 times less than the EU. Economically disadvantaged people usually don't think strategically – it is up to state policy to set standards. A cost-benefit analysis is generally not being conducted by them. The ministries as well have social priorities, not ecological ones. Economic growth will lead to increased capability in the future.

Municipal programmes for greener heating are very restrictive – they offer no flexibility of means – the pellets and gas offered aren't popular (or that eco-friendly). Disadvantaged groups aren't capable of fulfilling the administrative requirements to participate in the programmes.

Many counties have well-developed models of social **collection of waste**. Individuals in Bulgaria haven't been incentivised to do it yet.

From prior experience, one topic that has been encountered in educational classes for adults was **meat consumption** – why beef is a problem for the environment. It was done through Video presentation, with concrete examples included. However – no concrete behaviours were mentioned from the learners.

There is a general consensus that any information campaigns targeted at disadvantaged adults should show cases from **everyday life** that concern each person, not concepts far from people's lives. Information needs to be structured in a way to solve basic problems. Disadvantaged people appreciate vocational education. Practical applications, such as **manufacturing objects for everyday** use using scrap materials are a good example. An Excel table that calculates **how much one can save** if one uses eco-friendly alternatives would be useful. Saving money is one of the main ways to win people over.

Another aspect to be explored is the connection between the environment and **health**. Poor health leads to increased medical bills. In order to involve disadvantaged adults, it is effective to invite people to take part in **discussions**, to have a voice in making decisions, how to be more active citizens, to be not isolated at the brim of things. Example: In one of Greenpeace's campaigns in Pernik, they did open meetings with the community there. At first, they talked about general issues, but then focused on specific problems, relevant to the local community. People started trying to resolve those problems. What works is for the topics to be relevant to the people, to be very concrete and part of their daily lives.

4.5. Germany

There are different reasons why someone is disadvantaged. This also results in differences in how being disadvantaged affects, for example, the understanding of how one's own actions have an

impact on the climate, the ability to acquire knowledge and strategies for action, as well as the willingness and ability to actively shape one's own living space.

One reflection here is that it is possible that for disadvantaged adults the topic of climate change it not one of their first priority, as they have other concerns. To say it with Maslow: if your basic needs are not covered, you are hardly prepared to care about other things. Therefore it is understood that the best way to sensitise them might be to **link the problem to their lives**, make them understand that it does matter and can also have a positive impact on their current situation, e.g. point out the financial factor.

However, it also appears from another perspective that climate education issues are "misused" as a means to create hierarchy, e.g. in the work with refugees, rules on climate protection are not taught on a factual level but along the assumption that the refugee is ignorant, disrespectful etc. and has to adapt. This leads to rejection of the topic.

Whether the climate issue is considered relevant also depends on the background, previous experiences and opportunities, which are of such a different nature that the question cannot be answered for "disadvantaged adults", but only for highly specified groups taking into account further defined socio-economic factors.

In general, the path of participation should be chosen and identification should be created. Learning opportunities must be credible and meaningful.

4.6. Italy

On Italian disadvantaged adults perception of climate change, data are available on the Eurispes Italy report 2020. The report highlights, among other factors, the different perceptions and attitudes regarding climate change and environmental protection in Italy. The study shows a major awareness of climate change among Italian youngest generations (18-24 years of age) and Italians who hold a university degree. While, climbing down both the educational and economical levels, **level of awareness drops significantly** among low-educated and less financially secure Italians. The issue of climate change is also a matter of generation since older Italians tend to be less aware and less willing to commit to some behavioural change to tackle climate change, both at a political level and individual lifestyle level.

For this reason, it is vital to find a way to teach climate change and climate action speaking a language and **portraying a narrative** that adult learners and among them those with a low-education background, can easily understand and engage with. While also highlighting the relevance and the urgency it demands in terms of action in a way that is speaking to their problems and hopes for the future. Indeed, living in a more sustainable society is something that benefits everyone. Being able to show that to disadvantaged adult learners is vital to on-board them and motivate them to take lifestyle changes to their daily routine.

4.7. Spain

There have been surveys regarding climate change and environmental protection in Spain before. Both conducted by national institutions (e.g. Real Instituto ELCANO), as well as by the European Commission itself. The majority (over 60% interviewees in both surveys) of interviewees named climate change as one of the biggest threats for the future. Despite this apparent interest and worry about climate change, many topics influencing climate (e.g. biodiversity) **were not seen as a priority** (less than 1% of interviewees in the el cano survey). The European survey also identifies pollution (marine pollution 47%, air pollution 47%, lake/river pollution 42%) and waste production (38%) as key points of climate protection. This is followed by the shortage of water resources in Spain (32% of the interviewees consider this topic an important point regarding climate, different from the European average of 23%). There has not yet been a survey targeting disadvantaged adults directly.

A crucial step of closing the distance between disadvantaged adults and climate education is providing them with **resources directed at them**. If all the resources available are aimed at people in official educational and/or employment systems, they face multiple obstacles in trying to find information and support and changing their own climate-related behaviour and habits:

- **cost-related difficulties** when changing their life style or taking climate friendly decisions;

- lack of **digital resources** to access the materials provided;

- **no official support** or funding for their living situation; as others might get support through their work place or educational institution.

5. Selection of relevant topics

Topic	Content
Climate change	- Is the climate really changing? - What are the proofs of climate change? - What are the main consequences? - What is being done?
Affecting climate change	- Political action - The role of the markets - Organised efforts - The role of the individual – making an impact
Waste separation	- Why separate waste? - How waste separation happens? - What can be recycled and what not? - Types of plastic and their ways of recycling - Composting
Packaging of items and goods	- The consequences of plastic pollution (health effects, food and water storage and consumption) - Alternatives of single-use plastics and packaging (reusable and biodegradable packaging) - Costs of using single-use plastics and eco-friendly alternatives
Food consumption choices	- CO_2 produced by meat consumption - Meat production emissions - Moderation vs. excess and polarisation – you need to reduce your consumption, not become a vegan

	- Cheap ways to eat healthy and environmentally friendly
Energy efficiency	- How electricity works; - The costs of low energy efficiency; - How to save on electricity costs by Smart appliance use; - Long-term saving on costs – solar panels; - The benefits of thermal isolation;
Heating options **(eco-friendly alternatives)**	- What is the problem with fossil fuels? - The rising costs of fossil fuels - The impact on environment - The alternatives - A table of comparison of different heating options - Public support measures for transition to cleaner heating options (ideally with links to existing programmes)
Air pollution **(coal usage and alternatives)**	- Sources of air pollution - Alternatives - Health effects of air pollution (masks usage, indoor vs. outdoor activities) - Use of transport (cars – electric, diesel, etc.)
Water resources	- Saving on water resources - Reasons for water pollution - Usage of domestic products – alternatives - Products that consume a lot of water to

	produce
Soil degradation	- The causes of soil degradation - The effects of soil degradation on the food we eat - What can be done
Protection of forests and protected areas	- The consequences of deforestation; - What products are really bad for the forests (veal; palm oil etc.) - Inspiring examples on how people managed to protect their local environment
Retraining of professionals, whose profession becomes redundant	- phasing out of non-environmentally friendly jobs - CPD: the benefits of planning ahead in order to escape unemployment - Organised courses in training centres

6. Methodology for educating disadvantaged adults

6.1. The specifics of trainings with disadvantaged adults

6.1.1. Good practices

- Any educational offers must be preceded by **informational campaigns** to raise awareness of the topics.
- As part of an answer to low participation rates in learning due to time-related barriers, it is recommendable to provide **more flexible learning opportunities**, including part-time, weekend or online courses. Training offers should not take away from their everyday responsibilities.
- It's important to pay attention to the **course title** - it must motivate, preferably emphasising self-interest.
- Establishing a **set of rules** from the beginning creates an atmosphere where all participants feel confident.
- Setting clear **learning goals** for every session can be very productive. It is good to view the course as a whole process with its beginning, progress and end.
- The **learning needs** of the particular group should be taken into account. A basic syllabus must be established that takes into account the reality of the learners, their age, needs

and sets clear goals. - It is very important to meet the **appropriate level of challenge**, i.e. neither to overchallenge nor to underchallenge.

- The trainer should have a **variety of materials** at their disposal and adapt them to the need.
- The respective topics should also be **localised**, i.e. it must be designed depending on how the precautions are in the respective city, municipality, region - for example with regard to waste separation, or the topic of heating, which can be very different, with different possibilities to exert a positive influence.
- A general consensus exists that the training approach should be very **practical.** As little complex theory as possible should be presented. **Real-life problems** need to be included.
- A good training needs to show the interconnection between **individual behaviours** and consequences on a mass scale.
- Trainers should **avoid using complicated terms.** They must explain specifics if necessary and use concrete instructions
- A **learning diary** can be very affective in reinforcing what participants learned, as well as simpler forms like keeping notes**.**
- **Positive reinforcement** is effective in motivating learners.
- **Repetition** is an important element to get a message through.
- Including **positive points of reference** from one's own living environment can do wonders.
- **Feedback forms** must be employed to explore what really corresponds to the needs of the target group
- Focusing specifically on working together in a group and **teamwork** can be very useful for teaching disadvantaged adults, as many of them need to learn (or relearn) this skills.
- The content should be presented in terms of **visions**, i.e. not disaster education - designing, describing and exploring positive future scenarios, and then considering ways to get there, because if you can well imagine the desired future, this is much more engaging. Trainers should avoid working with horror scenarios and to convey negative messages, rather use positive story telling in order to motivate people for their commitment and action.

6.1.2. Bad practices

- If climate topics are presented out of context and without justification, there is considerable change they will be misunderstood as something not relevant for the target group.
- Wasting time - Participants get angry if they are made to perform in a classroom an activity they would be able to do independently at home
- Participants shouldn't feel they are working, they must experience they are learning.
- Lack of feedback from the participants make a training ineffective.
- Brochures don't really work as a way of informing people. The only possible exception are people without digital access. In that case, the brochure shouldn't contain a lot of text, present contents rather pictorially and use simple language.

6.1.3. Specific methodologies with proven effectiveness

If feasible, **real-life learning opportunities** such as e.g. active participation in community life have an undeniable effectiveness.

A good starting point are activities to **get attention**. Participants can start to wonder about something (using an impressing image or a quiz with 'amazing' facts). Organising a controlled chaotic situation ('what happens!?') can also work. It could be the introduction of a concrete experience of someone or the experience of a learner that is part of the group. Attention can also start with the introduction (by a story, image, film or anything else) of something familiar.

Interactive tasks – even simple ones – keep the participants involved.

A '**reversed classroom**' – participants receive materials in advance to prepare for the training. In that way participants manage their own time, while the trainer makes the best of their time – they don't present information, but activities.

Involving the disadvantaged adults actively in **discussions** is a great way of getting them to reflect on what they can personally do to improve the climate. The issues around climate and environment are often very complex, and there are several perspectives and different interests, which is good to discuss. Discussions can be stimulated by lists of questions on the main aspects. Simple, approachable questions that the participants can answer correctly improve their motivation. The trainer acts as a moderator. Participants can try to convince others. Entering into a discussion provokes the interest even in opponents – they are motivated to learn more. A good example of a discussion topic is how to convince your friend that separating your waste matters? Another form of discussions is based on **current newspaper articles** (from politics, society and the environment).

Negotiation role-plays can be especially engaging for the participants. They must include 3-4 interested parties, scenarios with the roles, including the emotional characteristics and finances – 1 page max. Graphs or images can also be included. The scenarios must be close to the everyday lives of the participants. It is recommended to leave the group to self-regulate and not to moderate for the duration of the role-play.

Scientific texts offer extra value, as they it can be much deeper than other media. They can explore questions like how do we know that climate is really changing, why people are not necessarily entitled to a personal opinion, and why facts matter.

Social games, competitions and gamification in general are good ideas. Estimation games can be especially effective - e.g. what can I do with 1 ha of land, where are the levers to use it sustainably?

Project-based learning can be very effective. It can start by involvement in activities such as excursions or projects where participants can contribute and develop their own ideas, and transform in the implementation of their own campaigns and projects.

The '**popular education**' approach can have an added value in the context of reaching difficult to reach adults. This approach was initially developed by the Brazilian pedagogue Paolo Freire and has been adapted worldwide in the context of environmental awareness-raising and, most importantly,

of empowering learners. Popular education argues that social change can best be initiated when we experience the issues ourselves and are part of an interactive learning environment as equals. Building on learners' existing knowledge gained through everyday life – such as in tending a vegetable garden, using natural medicines and remedies, or collecting mushrooms – there can be found issues learners can relate to emotionally in order to show that humans are part of biodiversity and have a stake in ensuring its prosperity. Also the use local examples of problems and solutions seems to be very important in this context. In addition, relating to everyday life and real existing problems allows the learners to become multipliers in their own social networks.

Critical thinking skills are necessary to tackle the topic of greenwashing – people find it difficult to distinguish information, because it's too much. Competences regarding.source criticism,project work and communication are important. It can be helpful for people to know that there is someone they can ask for support (an expert). **Reflection** is also effective – they do not need to take the status quo as given, but can try to assess what is good and what should be improved or changed, considering different perspectives.

6.2. The role of the trainer

6.2.1. Good practices

- The trainer should listen to the needs of the people – **inclusion** is key.
- **Personal contact** with members of the target group, preferably in already existing groups, is irreplaceable. It is a great way to convince people.
- Disadvantaged adults must be treated with **respect**.
- In order to incorporate climate issues and to be able to respond flexibly to the learners, the trainers should be provided with **very good background knowledge**.
- The trainer shouldn't speak about facts alone – room must be left for the **emotions** and personal experience.
- It helps if the trainers are credible and perhaps have a **similar background** to the learners.

6.2.2. Bad practices

- Lack of **trust** is a considerable problem – trust must be earned
- Focusing only on **shortcomings** is counterproductive.
- **Discriminating** against specific learners is always a bad idea.
- Failing to create a safe and calm atmosphere conducive to learning.
- Participants should be treated in a **condescending way**.
- Participants **shouldn't be blamed** for their behaviour, a pointing finger does not work.

6.3. The specifics of online trainings

6.3.1. Good practices

- Online education and training in general are **more accessible**. They could be translated, recorded, watched multiple times. They are cheaper to create as well.
- Online tools can be effective, primarily if the **self-benefit** is made transparent, e.g. a comparison of one's own energy consumption with comparable households, together with savings tips.
- Online tools are effective when combined with **offline activities**.
- **Facebook** is central channel of communication, because it is used a lot by many people. It is a good place to distribute short videos, informative graphics with little text in simple language, and with evocative questions that encourage reflection.
- **Zoom meetings** work surprisingly good with disadvantaged adults, because they involve personal contact.
- **TED** talk podcasts or **videos** are a good idea, but they need to be low-threshold. There is a lot of information on the web, but it should be curated. Learners shouldn't google by themselves, because there is a lot of misinformation in this context.
- All videos must have **subtitles** – YouTube allows for them to be shown as a whole text. Subtitles are necessary in the case of hearing difficulties or poor audio equipment.
- It is a good idea if the video has a **modifiable speed**, so learners can slow it or speed it up as they see fit.
- Some digital platforms allow for a more **advanced interaction.**
- Adults rarely experiment with the functionalities of online platforms and must be **demonstrated**
- Using **screenshots** for the instructions is recommended.
- It is a good idea to **ask questions** at key moments of a video to check understanding.

6.3.2. Bad practices

- It should be noted that many people come to the training rooms voluntarily even under COVID, because they **don't have the equipment**, the necessary data volume (internet access) or the necessary programmes - starting with Word and Excel - or need support.
- **Lack of e-skills** on the side of the participants can be a problem
- Information overload can be a constant threat when teaching online.
- Using **only videos** is a bad idea, as videos present the information without time to reflect, while a text allows for a critical reflection
- Frequent **multitasking** divides participants attention.
- **Rushing** with the content can also be problematic, as all learners learn slower online.
- Online education becomes **tedious a**fter a long period and people are more mentally excluded than when they have physical events.

7. Identified personal behaviours

Disadvantaged adults often feel that climate is a topic of great scope, of governments and corporations, where a single individual matters little. With the help of experts, we have identified behaviours that are affordable for an individual, and present many opportunities to make a personal impact and contribute to the solution.

7.1 Waste reduction

- Separate waste correctly (depends on the region/country which fractions are collected by the municipality or which materials can be taken to a specific recycling depot) e.g. plastics, paper, cardboard, electrics, glass, aluminium, cans, metal etc.)
- Visit local recycling centers to understand the process better
- Look for and participate to community clean up events
- Buy products with recyclable packaging material
- Start a home composting system to turn foodwaste into compost
- Start a vedgetable garden or go to a community run one and become a member
- Don't throw away food à meal planning
- Repair items before buying a new one
- Dispose batteries separately
- Take your canvas bags to the supermarket
- Avoid single use items whenever possible, if not, keep them, rinse them, reuse them.
- Donate / give away / sell things at the flea market instead of throwing it away
- Buy second hand clothes
- Make at home approach
- Use old clothes for rags for cleaning around the house, instead of paper towels
- Cancel your magazine and newspaper subscriptions and read them online or at the library.
- Buy from local shops. When you buy your groceries from local sources (e.g. local farmers market) you help the local economy and reduce transportation and refrigeration co2 emissions.
- Buy less products with fancy packaging – with mat and gloss, because they're harder to recycle. This also guarantees less bad things in our organism.
- Buy less nylon and polyester – they have plastic threads. When washing the clothes microplastic is being released and goes into water reservoirs. The waste coming from textile is one of the top 5 pollutants, together with food.
- Do not pack each fruit/vegetable in nylon bags. When the directive for plastic products becomes effective this year, supermarket chains will find more eco-friendly products.
- Reduce red meat consumption, as it had a huge ecological footprint
- Create zones for composting and shared gardens. It would be easy to organise and it would decrease the waste tremendously.

7.2. Energy efficiency

- Turn off all your electronic devices when you are not using them (stand-by function consumes energy)
- Use natural light whenever possible
- Use selective lighting (spot where you need it) and not overhead lighting
- Use LED lamps – similar price, decreasing the electricity bills
- Install dimmer switches to control your lights
- Install motion sensors in your exterior, which turn your lights on only when something or someone is moving
- Run full loads (washing machine, dish washer, dryer)
- Hang dry your laundry instead of using the dryer
- Keep fridge and freezer at ideal temperature
- Defrost your freezer regularly
- Use the “economy mode” setting on appliances
- When purchasing a new electronic device, get a model that is “energy star” certified
- Use window coverings wisely – against sun to keep your house cool / against cold to make sure the heat is kept in the room and is not wasted so quickly through (poorly insulated) windows
- Apply reflective coating on window glass to reduce the amount of heat entering your home
- Manage the thermostat of your heating and lower a little the average temperature
- Save energy with thermal insulation
- Look up for energy saving hacks and apply them at home

7.3. Water efficiency

- Evaluate the water consumption and resources
- Monitor your water bill for unusually high use. Your bill and water meter are tools that can help you discover leaks
- Consume less on personal level
- Take shorter showers
- Turn water off when shaving, brushing teeth, washing hands
- Fix any leaky faucet
- Check your toilet for leaks
- Install water-saving shower head or flow restrictors
- Use washing machine and dish washer for full load only
- Switch of the hose while washing your car
- Use a bucket and sponge to clean the car
- If you install a new toilet, make sure it has a dual-flush system
- Collect rainwater collection for watering plants.
- Reusing water: collect water from the sink and use it for the flowers
- Water your outdoor plants during the cool parts of the days

- Put a layer of mulch around your plants/trees in the garden to slow down the evaporation of moisture
- Use filtered tap water for drinking rather than energy and water-intensive bottled water

7.4. Transport

- Switch to more sustainable modes of transportation where possible
- Use public transport
- Cycle
- Walk
- Car sharing, one person per car is the main reason for traffic jams and high levels of micro-particles in the urban environment.
- When travelling, a train is better than a plane.

IV. Existing educational offers

1. Austria

Resource	Description	Website
"I do it"	A simulation board game that is aimed at players experiencing the basic conflict between economic and ecological interests, the basic conflict between economic and ecological interests. Along these, the game provides basic knowledge on climate protection in an engaging/gamified way. Target group: Adolescents and adults from the age of 15 or from the 9th grade of school. Topics: Energy recycling and waste management, Construction, space and transport, Agriculture and forestry, Economy and technology, Tourism, Leisure and Sport. Accessibility: free. *Language*: German. Usefulness for the Climate Box approach: Not 1:1, but the factsheets contain very well-prepared information on the individual sectors that produce or cause greenhouse gases	https://www.klimaplanspiel.at
zam.wachsen	A set of practical exercises on environmental topics that include a handbook, picture material, listening exercise about the nuclear power plant in Zwentendorf. It is aimed at integration of different groups through environmental and language education. The learning experience is provided face-to-face through workshops. Target group: Learners of German as a Foreign Language and German as a Second Language, language course levels A1 - B1. Refugees and migrants. Topics: Waste – types of waste, separate waste, recycle, Waste – types of waste, separate waste, recycle, Consumption – The journey of a T-shirt, Energy – energy production, energy saving.	https://www.global2000.at/zamwachsen-unterrichtsmaterial-danke

	Accessibility: free. *Language*: German.	
Österreich Spiegel	A newspaper for German language lessons, issue 89, topic: „Environment and Climate“ + additional material for exercises. It combines German language learning, text comprehension and quizzes with the topic of climate change. **Target group**: people who are learning German language. **Topics**: Climate change, ecological footprint, sustainability, separate waste, tips for sustainable lifestyle. **Accessibility**: free. *Language*: German. **Usefulness for the Climate Box approach:** Idea to use topic related articles from newspapers and journals. Some very basic infos on the topics - quizzes	https://sprachportal.integrationsfonds.at/news/news-detail/oesterreich-spiegel-ausgabe-89-zum-thema-umwelt-und-klima
Deutsch lernen	A teaching magazine for living together and integration in Austria. Issue 9 (2018) is dedicated to learning German and about the environment in an interactive way through a workbook with quizzes, cloze texts, crossword puzzles. **Target group**: German learning migrants and refugees. **Topics**: The main focus is on language learning, but the content relates to waste disposal/separation, saving energy, national parks, etc. **Accessibility**: free. *Language*: German. **Usefulness for the Climate Box approach:** Ideas how to design worksheets	https://sprachportal.integrationsfonds.at/fileadmin/user_upload/2018/Deutsch_Lernen_Magazin/IF_DeutschLernen_09.pdf
"Organic" - good for people and nature”	Worksheets Integration language course on the topic of organic farming. It includes reflection, associating, quiz, research tasks, etc. **Target group**: Participants of language and integration courses. **Topics**: Organic farming. **Accessibility**: free. *Language*: German. **Usefulness for the Climate Box approach:** In general conceivable, to take and adapt some of the ideas	https://sprachportal.integrationsfonds.at/fileadmin/user_upload/2015/Materialien%20Schwerpunkt%20Deutsch/Bio_-_gut_fuer_Mensch_und_Natur.pdf
Teaching and learning videos - climate	An online resource tackling three topics related to climate change by three creative 5-minute videos. In the videos are proposed actions that are easy to follow and directly related	https://www.ich-tus.steiermark.at/cms/beitrag/1280

knowledge adults	to the effects on the environment. **Target group**: adults. **Topics**: climate-friendly food, climate-friendly electrical appliances, climate-friendly office supplies. **Accessibility**: free. *Language*: German. **Usefulness for the Climate Box approach:** production of short video sequences is conceivable	3232/157251564/
Teaching folder KlimAhaa!	A practical handbook of 181 pages that is divided in units and ideas for teachers for implementation of the topics of climate, climate change, climate protection and climate change adaptation in the classroom. It includes information, games and experiments. There are some materials that guide the pupils through concrete behavior changes or measures, e.g. save energy. **Target group**: direct target group are educators, teachers; final beneficiaries: children and young people. **Topics**: scientific basis of climate change, climate change impact, personal climate protection measures and climate change adaptation. **Accessibility**: free. *Language*: German.	https://www.ich-tus.steiermark.at/cms/dokumente/12648154_102637842/6f595d7a/Unterrichtsmappe_KlimAhaa_gesamt.pdf
Klimakochbuch	A website that offers a recipe book with tips and tricks on how by cooking one can contribute to the climate protection. Recipes are accompanied by information on the carbon footprint of the respective dish: a) when prepared with local, seasonal and organic ingredients and energy-efficient equipment and b) when prepared with conventional, partly non-seasonal and regional ingredients and conventional equipment. **Target group**: the general public. **Topics**: Recipes + climate-friendly shopping, cooking, storage and preservation, growing vegetables, using leftovers and other relevant topics. **Accessibility**: free. *Language*: German.	https://www.klimakochbuch.at/
Handy, Smartphone & Co	A handbook of 58 pages containing introductory part, suggestions for the implementation in lessons, worksheets, infographics, raw materials overview with country of origin,	https://www.ubz-stmk.at/fileadmin/ubz/upload/Mat

	type of production, price/kg etc. It includes information on the impact of technological hardware production, as well as calls for action e.g. a day without a phone challenge. **Target group**: educators and teachers; final beneficiaries: children, young people from 5th grade onwards. **Topics**: Smartphone facts and figures, history and distribution, components, grey energy, green IT, mobile phone and health, mobile phone and costs, mobile phone and social issues, etc. **Accessibility**: free. *Language*: German.	erialien/publikationen/Handy_Smartphone_und_Co.pdf
Mein Fußabdruck	A website providing information on one's own footprint, based on several questions answered. It serves as a footprint calculator. **Target group**: the general public. **Topics**: measurement of the individual ecological footprint along the four areas of housing, food, mobility, consumption. **Accessibility**: free. *Language*: German.	https://www.mein-fussabdruck.at/
CO2 Rechner	A website providing information on the amount of CO2 in comparison to the average consumption of Austrians, tips and further information. It serves as a CO2 calculator. **Target group**: the general public. **Topics**: measurement of the CO2 consumption along the three areas of housing, consumption and mobility (comparison with average consumption). **Accessibility**: free. *Language*: German.	https://www.co2-rechner.at/
Klimaaktiv App	An app that contains knowledge cards and information on various topics related to climate change. The topics are constantly being expanded. **Target group**: adults. **Topics**: ecological building, renovation, heating, energy saving and mobility behavior. It provides courses like Climate protection, Climate change fact check, Fresh air, Heating, Comfort ventilation, Electrical trade apprentices as efficiency multipliers. **Accessibility**: free, registration needed. *Language*: German.	www.klimaaktiv.knowledgefox.net or https://klimaaktiv.knowledgefox.net/KnowledgePulse/client/login

Topprodukte	A website on which the user can find the best energy-saving products for the household – lamps, washing machines, refrigerators, etc. The website also offers tips for buying appliances and using them in a cost-saving and energy-saving way. Another added value of the site is that it provides comparison between one's household electricity consumption and another household of a similar household. **Target group**: adults. **Topics**: electric efficiency, energy-saving and cost-saving solutions. **Accessibility**: free. *Language*: German.	https://www.topprodukte.at/
Faktencheck Energiewende	The "Fact Check" offer a comprehensive review of the latest data, facts and arguments in the climate and energy policy debate. Based on international studies, they show economic and ecological trends and debunk the most common myths surrounding the topics of "energy transition", "e-mobility" and "building and renovation" with facts. **Target group**: adults. **Topics**: Fact check Green Finance, Fact check Energy transition, Fact check Sustainable building, Fact check E-Mobility, Fact check thermal building component activation **Accessibility**: free. *Language*: German.	https://faktencheck-energiewende.at/
SMERGY and SMERGYmeter	The OnlineCheck SMERGYmeter currently offers around 50 different energy-saving tips and energy-saving measures for implementation in one's own flat or shared flat. Users input data such as room size, energy source or household size. Along with the SMERGYmeter on the website you can find energy saving tips, networking opportunities, information on actions like study visits, etc. **Target group**: young adults. **Topics**: saving energy in everyday life. Categories: kitchen, living, rooms, corridor, bathroom. **Accessibility**: free, registration needed. *Language*: German.	http://smergy.at/ and http://smergy.at/smergymeter/
Label compass on bewusstkaufen.	Internet database with filter functions for the categories Beverages and food, Home and garden, Hygiene and clothing, Electronics and appliances, School and children and sub-categories for each. Subcategories offer information on	www.bewusstkaufen.at and https://www.bewusstkaufen.at/lab

at	Species-appropriate animal husbandry, environmentally friendly production, environmentally friendly packaging, controlled organic cultivation, social responsibility, limited use of harmful ingredients, durability, repairability, low noise level. **Target group**: the general public, adults. **Topics**: Overview and compass for quality labels for sustainable products + diverse topics related to sustainable consumption. **Accessibility**: free, registration needed. *Language*: German.	el-kompass/

2. Belgium

Resource	Description	Website
Het Kleine Klimaatboek' (The Climate Pocketbook)	A book edited and compiled by Gustaaf Cornelis, a professor in the Vrije Universiteit Brussel (VUB). The book includes texts written by 10 experts and lectures on the topic of climate change. It provides information on the current state of affairs related to climate, why action is needed now and how it should be done. **Target group**: the general public. **Topics**: covers a wide range of topics such as basics of climate science and global warming, energy transition, climate-smart mobility, urban planning, sustainable lifestyles, and planetary boundaries. Separate chapters are devoted to national and international climate negotiations. Includes tips on how to efficiently communicate scientific truths and reach a broader audience. **Accessibility**: paid, 20 euro per copy. *Language:* Dutch.	https://gompel-svacina.eu/product/het-kleine-klimaatboek/
Adapt2climate	A national website developed by the National Climate Commission as part of the implementation of the National Adaptation Plan. The portal aims to make available existing information on climate change impacts, vulnerability assessments and adaptation in Belgium, transparency on what actions the government is undertaking. It includes case studies and policy references.	https://www.adapt2climate.be/?lang=en

Target group: it is directed to citizens, especially Belgian residents.

Topics: Agriculture, Biodiversity, Cities, Crisis management, Coast, Energy, Fisheries, Forests, Health, Industry & services, Research, Tourism, Transport, Water.

Accessibility: free. *Language*: French, Dutch, English.

Usefulness for the Climate Box approach: The information's from the web could be transferred to the Climate Box, as they offer comprehensive climate change information's in Belgium.

3. Bulgaria

Resource	Description	Website
	A blog about how to reduce the plastic impact by swapping plastic for more sustainable alternatives or reducing the usage. The author of the blog is providing different solutions to the everyday non-degradable products that cause pollution. The blog also proposes a map of all the fountains available to the general public that one can use instead of buying bottled water (in plastic).	
Zero Waste Sofia	**Target group**: the general public. **Topics**: How to be plastic-free at home and outside, Domestic sustainable products for the bathroom, kitchen, bedroom, Sustainable fashion, Dog breeding at home with less waste **Accessibility**: free. *Language:* Bulgarian. **Usefulness for the Climate Box approach:** Some advice on how to reduce plastic in our daily lives.	https://zerowastesofia.com/
Let Us Green Again	An informative kit that is aiming at Goal 13 of the 17 Sustainable Development Goals by the UN. The kit contains information about how global warming impacts the Earth and engages students in acting towards change. Students register on a platform where they can upload information and images about their country and region, collaborating with other schools and students worldwide. **Target group**: schools, teachers, students in school and high-school aged 7-17.	https://www.etwinning.net/bg/pub/get-inspired/kits/kit.cfm?id=1481

	Topics: Climate change. **Accessibility**: free. *Language:* English, Bulgarian, etc. **Usefulness for the Climate Box approach:** The free platforms proposed could be used as an idea on what interactive element we can integrate in our project.	
Take Action for the Future	An informative kit that is aiming at raising awareness of environmental problems and pollution. Students register on a platform where they can upload information and images about their country and region, collaborating with other schools and students worldwide. **Target group**: schools, teachers, students in high-school aged 14-16. **Topics**: Environmental pollution – land, air, sea, and different sources of pollution. **Accessibility**: free. *Language:* English, Bulgarian, etc. **Usefulness for the Climate Box approach:** The free platforms proposed could be used as an idea on what interactive element we can integrate in our project.	https://www.etwinning.net/bg/pub/get-inspired/kits/kit.cfm?id=1541
Act4Eco	A project that is aiming at informing about how one can live in an energy efficient home through different ways and means. **Target group**: the general public. **Topics**: Energy efficiency, Produce your own energy, Manage energy consumption, Improve your home, Become a smart consumer, Sustain efficient energy use. **Accessibility**: free. *Language:* English, Bulgarian, etc.	https://act4eco.eu/
The climate and me	A project by the National Trust Ecofund that aims at informing children and students about climate change topics through organising interactive educational events. On the website are listed several simple steps one can follow to lower their impact on climate change through various topics. **Target group**: educational institutions – kindergartens, schools. **Topics**: Climate change, Energy efficiency, Carbon footprint.	http://myclimate.bg/bg/klimatat-i-az/

	Accessibility: free. *Language:* Bulgarian.	
RePowerMap	A map of European countries and cities and energy efficient buildings and establishments. It contains information about solar panels, geothermal pumps, biogas energy, etc. It serves as an information and comparison between all European countries. **Target group**: the general public. **Topics**: Energy efficiency. **Accessibility**: free. *Language:* Bulgarian.	http://forthenature.org/repowermap
Sea journey with WWF	A game by the WWF that connects the consumer's eating habits of sea food and their CO2 footprint. The game puts the player in the position of a fisherman – what type of sea food you want to catch, how to catch it, etc. and provides information on each step of choice. Each step is accompanied by interactive visualisations. At the end it provides a result on how many CO2 emissions were generated due to the selected choices. **Target group**: the general public. **Topics**: Carbon footprint. **Accessibility**: free. *Language:* English, Bulgarian, etc.	https://www.wwf-finprint.org/bg#
ClimateKids	A project by the Earth Science Communications Team at NASA's Jet Propulsion Laboratory. The website proposes interactive educational games as well as time lapse videos on changes due to the climate change. **Target group**: children, the general public. **Topics**: Weather & Climate, Atmosphere, Water, Energy, Plants & Animals. **Accessibility**: free. *Language:* English.	https://climatekids.nasa.gov/
ClimAlt	ClimAlt offers an e-learning platform on climate change containing 7 modules with 3 main chapters – Causes, Impacts, Alternatives. The platform contains video lectures, quizzes and additional reading materials. **Target group**: youth workers, trainers, youth/educators/activists aged 16 and more. **Topics**: Climate change, Interconnections between Covid19 and Climate Change, Agroecology, EU funds to achieve energy goals, Practical solutions for domestic heating and cooling systems.	https://www.climaltproject.eu/resources/e-learning-platform

Accessibility: free. *Language*: Bulgarian, Croatian, English and Italian.

4. Germany

Resource	Description	Website
Klasse Klima	As part of a project – training courses and workshops are organized for young people between 18 and 27, who in their turn will support students in becoming active for climate protection - in their everyday life, at their school and through political engagement. Mainly aimed at sustainable development at a personal, family and school level. The main goal of this project is to bridge the gap between intention and behavior. **Target group**: youth associations, universities, schools (high school students). **Topics**: Climate-friendly nutrition, Climate-friendly mobility, Climate-friendly consumption, Climate-friendly energy. **Accessibility**: free. *Language:* German. **Usefulness for the Climate Box approach:** Yes, for example "Incorporation of the concept of environmental psychology and how to bridge the gap between intention and behavior". https://ipu-ev.de/ Multiplying strategy.	https://www.klasse-klima.de
Project KLIMARETTER – LEBENSRETTER	A web application for a climate saver project, used in a browser version only that provides companies with a fully developed, easy-to-implement climate protection project for companies. It sensitizes the employees to climate protection and helps to implement simple climate protection campaigns in everyday work. The project can be used as a component for a sustainability report or a company's environmental certification. **Target group**: Health sector professionals, companies and institutions from the health sector and their employees, employees in pharmacies, doctor's offices, healthcare companies, etc.	https://klimaretter-lebensretter.co2-app.de/de

	Topics: Energy, Consumption, Mobility, Resources. **Accessibility**: from 2021 on a small cost is to be charged from the participating companies. *Language:* German. **Usefulness for the Climate Box approach:** Simple content on everyday climate change topics. Tips and tricks to protect the environment. Competition-Award: with CO2 saving results. Information about the sources. (national or international regulations.) Use CO2 savings as a unit of measure in climate protection actions. In this way all action can be measured for good. But, the calculated CO2 results are only guidelines for comparing your use. They can therefore not be assessed as actual CO2 savings. Present the project on social networks.	
	Teaching materials to convey environmental and climate protection in integration and job-related language courses. The materials are specifically prepared for people who are not so familiar with the topic. It is divided in 4 modules, starting from a starter module up to advanced. Each module has the same structure – intro, learning objectives, overview, of topics covered, background information and useful links for lecturers. **Target group**: teachers, who work with migrants in Integration and job-related language courses.	https://www.oekom.de/_files_media/broschueren/integra_et_klima-modulbuch_2018_13.pdf
Climate protection and language acquisition	**Topics**: Climate change, On the road, Living and working, Eating and drinking, Shopping. **Accessibility**: free. *Language:* German. **Usefulness for the Climate Box approach:** Practical exercises and daily content. Climate change topic in living classes. Vocabulary learning related to the topic of climate change in the new language. Environment dictionary: https://yesilcember.eu/wp-content/uploads/2017/07/Umwelt-Woerterbuch_TR_DE_PDF.pdf	
Resource	A manual, part of a pilot project called “Resource Day - Active	https://www.u

education for refugees	together in asylum shelters. Economical use of energy, waste and water". The manual contains materials and background information for educational events relating to the economical use of the resources: energy, water and waste. It contains 25 learning units, materials and further information. It proposes games, intercultural walks, multilingual energy-saving poster, self-explanatory films and practical exercises, interactive exchange of knowledge and experience, etc. **Target group**: people from the education sector, social pedagogues, language course teachers in integration, volunteers in asylums, who work with refugees aged between 18 and 30. **Topics**: Energy, Waste, Water. **Accessibility**: free. *Language:* German. **Usefulness for the Climate Box approach:** Activities designed specifically for migrants. Learning units by topic. Work with previously organized migrants (migrant self-organizations). Climate justice. Contact information for experienced trainers of the Resource Day project can be obtained (from the Federal Association of ANU).	mweltbildung.de/fileadmin/inhalte-projekte/Integration_Gefluechteter/Ressourcenbildung_ANU_Handreichung_2018.pdf
KlimaGesichter, Unweltbildung mit Geflüchten	Environmental education workshops aimed at refugees to become climate ambassadors. Then trained people are spreading the knowledge in schools and different institutions and facilities with refugees and people with a migration background. **Target group**: people with a refugee or migration background. Language schools and other facilities for refugees, migrants and interested parties. **Topics**: Climate and climate change, Climate change and nutrition or eating and drinking, On the move/road or mobility, Housing and energy, Waste avoidance and waste separation, Shopping and consumption, Green professions, new fields of work, environmental protection in the workplace. **Accessibility**: free. *Language:* German. **Usefulness for the Climate Box approach:** Interested parties of all ages can take part.	https://klimagesichter.de

	Qualification climate ambassadors Connection between topics TED Talk Green professions, new fields of work, environmental protection in the workplace	
GREEEN Guide	The GREEEN consortium (a 3-year network project) developed a guide on climate change education that serves as a source of inspiration for the integration of climate change related topics into educational programmes and school curricula in a creative and multi-disciplinary way. **Target group**: NGOs involved in developing and implementation non-formal educational programmes, teachers, trainers, school managers/administrators, researchers on education issues related to climate changes, interested citizens/youths/students. **Topics**: Critical knowledge and competences students and teachers need to have, Good practice examples on how climate change has been integrated into specific subjects or into extracurricular activities, Examples of networking activities and various offerings provided by the GREEEN Network. **Accessibility**: free. *Language:* various languages. **Usefulness for the Climate Box approach:** Many of the examples can be easily transferred to another context. Also, the guide indicates which competences and skills are needed both for teachers/trainers and learners in order to promote/adopt a climate friendly lifestyle.	https://greeen-eu.net/guide/
The NEED Project	NEED works with energy companies, agencies and organizations to bring balanced energy programs to the nation's schools with a focus on strong teacher professional development, timely and balanced curriculum materials, signature program capabilities and turn-key program management. The project provides variety of workshops, trainings, summer/spring camps for students **Target group**: Students, educators, and business, government, and community leaders. **Topics**: Science of Energy, Sources of Energy, Electricity, Transportation, Conservation and Efficiency.	https://www.need.org

	Accessibility: free along with a shop with different products one can buy (kits for the activites). *Language:* English. **Usefulness for the Climate Box approach: Leadership** NEED students don't just read textbooks and answer questions. They are actively engaged in their own learning and in teaching others. Some sponsors host summer energy camps, spring break camps, overnight energy weekends, and student internships. Recognition and Awards NEED rewards student leadership and innovation with a Youth Awards Program for Energy Achievement. Many schools submit reports on their energy activities. Awards are given at the local, state and national level with the National Recognition Ceremony held in Washington D.C. each June. **Pre/Post Poll** (NEED has developed Energy Polls that can be used to assess students' basic energy knowledge, as well as their opinions about energy. These polls can be used at the start of your classroom energy unit as a pre-assessment, and again as a post-assessment at the close of your unit) A student-friendly website supported by the NEED Project. It includes a variety of information and activities about energy. A teacher guide provides energy lessons that use this website as a resource. These curriculum-based lessons are separated by age-grade. **Target group**: students in Primary, Elementary, Intermediate, Secondary school years.	
Energy Kids	**Topics**: What is Energy?, Sources of Energy, Using & Saving Energy, History of Energy, Games and Activities, for Teachers, Related Links, Energy Calculators, and a Glossary. **Accessibility**: free. *Language:* English. **Usefulness for the Climate Box approach:** Games. Fun and simple activities. Separated Lessons by age-grade. (In the case of adults, characterization can be done)	https://www.eia.gov/kids/index.php

	Anyone is welcome to link to it.	
UN CC: e-Learn	An e-learning platform by the United Nations Climate Change Partnership. It provides strategic advice and quality learning resources to help people, governments and businesses to understand, adapt, and build resilience to climate change. **Target group**: focus on the needs of developing countries. **Topics**: Climate change, green economy, resilience. **Accessibility**: free. *Language:* various languages. **Usefulness for the Climate Box approach:** Possibility of certification. You can change preferred language. Public platform for self-study / Self-paced curses. After six months of inactivity on the course, you will be automatically unenrolled. Your progress, grades and certificates will be conserved, and you can enrol again at any time. Different themes for different goals. View of offers, duration, languages for each course.	https://unccelearn.org/

5. Italy

Resource	Description	Website
Community catalysts for regenerative development	A toolkit developed within an Erasmus+ project that is focused on sustainability and the United Nations Sustainable Development Goals. It presents practical tools for “regenerative development” – applying holistic processes to create feedback loops between physical, natural, economic and social capital that are mutually supportive, self-organising and self-evolving. It offers gamified cards and boards for practical application. **Target group**: community leaders, youth leaders and decision-makers. **Topics**: SDGs, community engagement strategies, design thinking and other relevant fields for the development of locally sound regenerative initiatives. **Accessibility**: free. *Language*: English, Italian, Hungarian, Portuguese,	https://catalysts.community/toolkit/

	Spanish and Catalan. **Usefulness for the Climate Box approach:** the SDGs card set available at: https://catalysts.community/wp-content/uploads/2020/11/sdg-card-sets.zip	
Cli.c.k for schools	A toolkit developed within an Erasmus+ project dedicated to climate change in the Euro-Mediterranean region. It includes informative resources as well as activities that nurture behavioral change. **Target group**: children aged 11-15 and their teachers. **Topics**: what climate change is, climate change and ecosystems, electricity, greenhouse effect, water cycle, ocean acidification and biodiversity, etc. **Accessibility**: free. *Language*: English, Italian, French, Croatian and Greek. **Usefulness for the Climate Box approach:** Most of it,especially on the knowledge part, since it's a collection of small lessons on issues related to climate change and its also complemented with practical activities. It would be appropriate though to adapt it to our target group.	https://www.clickforschools.eu/
Footprint calculator	The non-profit organization "Global Footprint Network" have created a mobile-friendly footprint calculator which helps each individual answer the question whether they live sustainably enough. It poses the question of the Earth Overshoot day which marks the date when humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year. After answering several questions, each user understands their own impact on the environment in terms of planets necessary to sustain their livelihood if all the people did the same. **Target group**: the general public. **Topics**: food, housing, transportation. **Accessibility**: free. *Language*: English, Italian, French, German, Portuguese, Chinese. **Usefulness for the Climate Box approach:** it would be important to include some interactive self-reflection tool like this, to help adult learners understand better their impact on the environment as it is, and how to reduce it.	https://www.footprintcalculator.org/

6. Spain

Resource	Description	Website
Stop climate change. A challenge for everyone	Educational material created by a Collective for Environmental Education (CEAM) in the municipality of Aragon, Spain. It includes a material handbook with different activities for participants and guidelines for educators. It aims at improving knowledge about climate change and finding a sustainable way countering/reducing the causes and consequences and how to change daily habits to improve climate and environment. **Target group**: secondary education school system, with explicit reference to the fact that it can also be useful for adults. **Topics**: Climate Change and its consequences as well as sustainable methods regarding energy efficiency, pollution, transportation. **Accessibility**: free. *Language*: Spanish. **Usefulness for the Climate Box approach:** The activities about energy efficiency, pollution and transportation can be transferred because they are already explained with household objects and thus represents a direct link to everyday life for learners.	https://www.aragon.es/-/frenar-el-cambio-climatico.-un-reto-de-todos
Green Homes: an initiative to facilitate change in the domestic environment	A programme developed by the National Center for Environmental Education in collaboration with the Ministry of Environment. The programme is divided in 3 steps and addresses the issue with water and energy consumption in Spain which is believed to be one of the most important environmental issues in Spain. **Target group**: aimed at families who are concerned about the environmental and social impact of their decisions and daily habits. **Topics**: self-control of domestic water and energy consumption, introducing cost-saving measures and behavior. Step 1: learning about how to actively reduce domestic water consumption by 6 to 10%. Step 2: gradually eliminate superfluous products that harm the environment or our own health. Step 3: increasingly opt for healthier and more ethical products.	https://www.miteco.gob.es/es/ceneam/programas-de-educacion-ambiental/hogares-verdes/

	Accessibility: free. *Language*: Spanish. **Usefulness for the Climate Box approach:** Direct methodology: Part 2/Step 2: - To regularly replace at least five basic food products with others from organic farming or fair trade. - Remove at least two products that are harmful to the environment or health from the shopping list. - Eliminate at least two superfluous products - Incorporate or reinforce new criteria for choosing items in our shopping basket: prioritise local products, avoid over-packaged products...	
Environmental education program on waste and recycling	A programme by the Ministry of the Environment and Territorial Planning in collaboration with the Andalusian Federation of Municipalities and Provinces. The programme combines communication (raising awareness), training and environment education actions. It is mainly concerned with informing and involving the educational community of various generations in reducing all types of waste, especially packaging and glass, as well as its adequate separation right from the beginning and to reflect on the environmental implications of consumption. **Target group**: aimed at the educational and university community as well as older adults. **Topics**: Waste and recycling – raising awareness on the issue. **Accessibility**: free for residents in Málaga. *Language*: Spanish. **Usefulness for the Climate Box approach:** Direct methodology: Activity: Investigando los residuos □ Activity that engages the participants in researching and managing information about waste and its recycling at work, home and the municipality, with the final focus in containers and glass.	https://www.miteco.gob.es/es/ceneam/programas-de-educacion-ambiental/programas-de-otras-entidades/recapacicla.aspx
Spaces for change	A programme by the National Centre for Environmental Education in collaboration with the educators of the Segovia Penitentiary Centre. It promotes the implementation of responsible attitudes and behavior towards the environment to achieve an improvement in the quality of life of all inmates. The	https://www.miteco.gob.es/es/ceneam/programas-de-

	resource is mainly about the exchange among the inmates about climate change issues and experiences that they developed in groups during the activity, as this also enriches the inmates' education and everyday life **Target group**: criminal offenders/ prisoners. **Topics**: includes the topics water, biodiversity and waste recycling. **Accessibility**: free. *Language*: Spanish. **Usefulness for the Climate Box approach:** The approach of the discussion rounds to further explore topics and exchange experiences can be transferred to Climate Box.	educacion-ambiental/espacios-para-el-cambio/
Responsible consumption and climate change: criteria and proposals for the mitigation of climate change from responsible consumption in Aragon	A guide about responsible consumption that could mitigate climate change. It is addressed towards more information and knowledge about how people impact on society in general and on the environment through their shopping and consumption habits. **Target group**: the general public. **Topics**: consumption in relation to housing, transport, food, household appliances, energy efficiency, recycling, use of packaging and emissions. **Accessibility**: free. *Language*: Spanish. **Usefulness for the Climate Box approach:** The approach of the discussion rounds to further explore topics and exchange experiences can be transferred to Climate Box.	https://www.miteco.gob.es/es/ceneam/recursos/materiales/consumo-responsable-aragon.aspx
Get to know and value climate change: Proposals for group work	A guidebook with 14 activities about climate change on various topics from different authors. Each activity is addressed to a different level of participants and includes a practical introduction and guidelines for educators. Each activity includes good practices and how these can be implemented as a response to the threat of climate change. **Target group**: mainly towards secondary school students, but it is also intended to answer questions that people in general may have about climate change. **Topics**: Different dimensions of climate change (causes, human actions, consequences, scientific theories, alternatives and solutions).	https://www.miteco.gob.es/es/ceneam/recursos/materiales/conoce-valora-cambio-climatico.aspx

Andalusian Climate Change Portal	**Accessibility**: free. *Language*: Spanish. A portal that serves as a virtual library and provides easy and integrated access to knowledge, resources, measures, actions, and policies in the form of best practices and manuals of the Andalusian Government related to climate change. Except for gaining knowledge through reading materials, the portal also offers dialogue and cooperation forums. **Target group**: the general public. **Topics**: Climate change and its effects, greenhouse gas emissions, transportation, use of packaging, waste recycling, food and clothing. Best environmental practices for citizens, companies, and schools. **Accessibility**: free. *Language*: Spanish.	http://www.juntadeandalucia.es/medioambiente/site/pacc/template.PAGE/bibliotecaVirtual/

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