



POLISH REPORT ON
**55+ ENVIRONMENT AND
CLIMATE LITERACY**



Greener Age



Co-funded by
the European Union

DOCUMENT INFORMATION

This report summarises the results of the research activities carried out in Poland within the Erasmus+ project GreenerAge – Climate Change and Environmental literacy for Urban Citizens 55+ (cooperation partnership in adult education, project number: 2021-1-FI01-KA220-ADU-000033502). More information is available at <https://greenerage.eu/>.

Authors

Edyta Sadowska, Zuzanna Gawron

Fundacja Laboratorium Architektury 60+

edyta.sadowska@lab60plus.pl

z.g.4258@gmail.com



Copyright © 2023 [SHINE 2Europe, Lda]



This publication is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International](https://creativecommons.org/licenses/by-sa/4.0/) (CC BY-SA 4.0) License.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Co-funded by the
European Union





TABLE OF CONTENTS

1. Introduction.....	6
2. Methodology	6
2.1. Desktop Research	6
2.2. Workshop and narrative interviews	7
3. Results	7
3.1. Knowledge and behaviour	8
3.1.1. Environmental literacy.....	8
3.1.2. Environmental habits.....	10
3.1.3. Environmental footprints	11
3.1.4. Environmental and climate impacts	12
3.1.5. Habits and behaviour change	12
3.2. Existing practices/initiatives/projects.....	13
3.3. Existing (digital) skills	14
3.3.1. Older adults	14
3.4. Existing training	16
3.5. Existing policy	16
4. Needs and gaps	17
4.1. Knowledge and behaviour	17
4.1.1. Environmental literacy.....	17
4.1.2. Environmental habits.....	17
4.1.3. Environmental footprints	17
4.1.4. Environmental and climate impacts	17
4.1.5. Habits and behaviour change	17
4.2. Practices/initiatives/projects.....	18
4.3. Skills.....	18
4.3.1. Older adults	18
4.3.2. Trainers.....	19
4.4. Training.....	19
4.5. Policy	19
5. Challenges and barriers	19
5.1. Compendium	19



5.2. Platform	20
5.3. Trainer Manual	20
5.4. Policy booklet	21
6. References	21

1. Introduction

We are facing an environmental and climate crisis, affecting both the well-being and quality of life of EU citizens. Our lifestyles and consumption habits impact communities thousands of kilometers away. Hence climate and environmental action are key priorities in Europe and other regions, with a green transition towards carbon-neutral societies by 2050 or earlier. We cannot achieve these ambitious environmental targets unless citizens are also brought on board. While people 55+ are concerned about climate change, they often do not feel they will be directly affected, nor that they can personally take action to stop it. Therefore, GreenerAge focuses on mature and older adults. To inform, engage, and empower them to take positive action towards climate change and reducing environmental impact in their everyday lives. This is part of the green transition.

Since 1968, the definition of environmental literacy has been broadly reviewed. The most widely used meaning is that it refers to an awareness of and concern about the environment and its associated problems. It also comprises the knowledge, skills and motivation to work towards solutions to current problems and the prevention of new ones¹. Increased climate and environmental literacy, combined with improved digital skills, will empower older citizens to adopt healthier behaviour for themselves and the planet. This will promote more active citizenship with other citizens in other EU countries and their intergenerational cooperation, influencing their family members, neighbours and friends.

Sensitising learners to environmental and climate-friendly practices and impacts requires knowledge, tools and drivers for change that may lead to a better understanding of the problems and support people to change their behaviour, improve their daily habits and influence others.

Towards this aim, the GreenerAge partners in each country made an investigation on personal habits and knowledge of the 55+ adult target group, as well as on strategies to increase environmental and climate literacy and change behaviours. This report documents the results of the research in regard to the Polish situation.

2. Methodology

Our national report follows a methodology that is shared among all partners. We conducted our research using a combination of desktop research, workshops, and narrative interviews.

2.1. Desktop Research

During the workshop on systematic desktop research, we gathered assumptions for the literature review. Based on these assumptions, we conducted a literature review using academic papers, reports, and recommendations. To ensure consistency during the research, we selected topics for better literature management and easier further analysis.

We focused on literature in the Polish language, while other partners conducted their reviews in their respective national languages. We decided not to set any limitations on the year of publication, allowing us to have a wide range of materials. Based on this, we could compare how narrations, definitions, and awareness have evolved during the years. We chose to use content analysis, which is a valuable research methodology that enables researchers to systematically analyze and interpret qualitative data in a rigorous and objective manner (P.Dec, 2007). Moreover, content analysis allows for standardized coding and categorization of data, allowing us to analyze large amounts of data and compare findings across different data sets easily.

2.2. Workshop and narrative interviews

To gain a more comprehensive understanding of environmental literacy, we utilized both workshops and narrative interviews. These qualitative research methods allow for a detailed and insightful analysis of participants' experiences, perspectives, and behaviors. Workshops are particularly beneficial for encouraging group discussions and collaboration among participants, facilitating the sharing of ideas and experiences, identifying common themes, and exploring complex issues. Additionally, they can foster a sense of community among participants, increasing their engagement and involvement in the research process. In addition to workshops, we also conducted individual narrative interviews that delved into participants' environmental experiences, behaviors, and perspectives. These interviews provide an in-depth understanding of participants' thoughts and feelings and allow for a thorough exploration of complex topics.

3. Results

This section will discuss the results of the research process, which was based on the following research methods. Polish-language literature was gathered, including both scientific and popular science articles. In accordance with the adopted methodology, the articles were subordinated to specific thematic groups, established as part of the general methodological principles of the project. Thus, the following division was adopted: Efficient use of air conditioning in summer, Choice of sustainable energies in general, Participation in environmental protection activities, Recycling Behavior, Sustainable food consumption/use, Sustainable mobility choices, Water-saving behavior, (General) Behavior change. It should be noted that in the case of the Polish study, issues related to the efficient use of air conditioning in summer were not analyzed - due to the insignificant usability of this solution.

Good practices were also gathered and analyzed as part of the research - desk research - in order to implement them as part of pro-environmental activities. As in the case of the analysis of available literature, the collected material was divided into the following thematic groups: Environmental literacy, Adults' learning, Behavior Change and Policy.

Based on the collected research material, as part of the analysis, an attempt was made to answer the questions about need and gaps.

As part of the conducted research, the interview method (IDI) and focus groups were also used. As part of the study, 11 in-depth interviews were conducted, based on the General Ecological Behavior Scale (GEB-50; Kaiser, 2020) and a focus group workshop. Data collection was completed through face-to-face and online interviews with residents in Poland, carried out in the month of August 2022. We obtained 8 valid questionnaires/scales out of a total of 8 questionnaires/scales applied. The participation rate in this survey was 100%. Eight people (87.5% women and 12.5% men) participated in the study (IDI). 62.5% of the group had a bachelor/s or equivalent level of education and 37.5% had secondary education. The sample comprised participants ranging from 67 to 77 years old (13% over 75, 50% between 55-70 and 37% between 70-75)

In-depth interviews on digital skills were also conducted, based on the Digital Literacy Assessment Questionnaire (DLQ; Son, Park, & Park, 2017). A detailed analysis of the results is presented later in the report. As part of detailing the results obtained regarding digital competencies, it was also decided to include a short analysis of the literature and statistical data in this area.

3.1. Knowledge and behaviour

3.1.1. Environmental literacy

Desk research

The most significant part of our publication focused on increasing awareness as the most effective way to increase eco-awareness. We found some publications about the motivation that we must generate to convince people to change their habits. Several different types of research reports were collected, including one about typical local behaviors and indicators that encourage them. The most popular problem dealt with in the text is air pollution. It's connected with deteriorating air quality in Poland, especially in mining areas.

Table 1 - PM10 dust emissions in Poland in 2015-2019 and PM2.5 dust emissions in 2019 (Selected cities) (Data of the Main Inspectorate of Environmental Protection). Source: https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-55953cfd-45d9-493e-944b-4a6d1f2266d6/c/70_gabryelewicz_the_state_ROS_2020.pdf

Town	PM10 Limit value = 40 µg/m ³					PM2.5 Limit value: for humans = 25 µg/m ³ , for plants = 20 µg/m ³
	Annual average [µg/m ³]					
	2015	2016	2017	2018	2019	2019
Kraków (communication station)	52	56.7	44.99	49.46	49.59	24.70
Pszczyna	52	50.9	55.59	54.89	44.29	no data
Rybnik	47	47.5	46.52	50.80	42.97	no data
Katowice (communication station)	46	46.9	52.03	47.30	40.55	27.69
Myszków	48	47.8	46.20	49.11	40.26	no data
...						
Nowa Ruda	46	45.5	48.35	42.78	39.73	no data
Zabrze	44	42.82	39.23	44.89	38.70	no data
Opoczno	56	52.2	37.08	35.14	30.54	no data
Ożarów	29	19.9	24.07	24.74	23.75	no data
Szczecin	26	22	21.98	24.49	20.31	13.69
Suwałki	24	19.2	21.04	24.05	19.77	no data
Białystok	25	19.8	20.99	23.98	19.2	no data
Osieczów	19	19.62	19.59	22.10	18.38	13.10
Słupsk	24	19.2	20.93	22.70	18	11.24
Gdynia	22	20.7	19.77	26.80	17.16	no data
Puszcza Borecka	17	15.69	15.52	16.79	16.07	11.10
Bory Tucholskie	18	15.57	16.03	19.86	15.40	9.64

There is no standardized definition for environmental literacy, but it is, in our opinion, connected to awareness (as awareness is the basis for further wide definitions) and ecological habits, which are related to knowledge about the impacts that each individual has on the climatic system, planet, and so on. Based on desk research of accessible literature, we can create a definition consisting of the parts already mapped and named, but without a single definition. Environment awareness is most often developed through personal experiences and observation along with the use of state-provided instruments of social impact (J. Nycz-Wróbel). The term environmental literacy refers to ideas that are not part of literature or are included in literature but are referred to differently.

Environmental awareness in Poland is defined as: a form of social awareness, reflected in the experiences and thinking of individual people and the socially functioning norms of understanding and evaluating the environment (Frątczak). And as J. Sobczyk points out, it is based on subjective knowledge about the environment, as well as cultural norms relating to the environment (Sobczyk). Therefore, it includes both views, knowledge and opinions as well as actions taken as part of ecological activities. In the literature on the subject, one can find the opinion that environmental awareness should be the result of properly conducted education - strengthening not only ecological knowledge, but also supporting social

activities, becoming an influential element of the socialization process (Cichy). Research conducted by L. Tuszyńska showed that 80% of respondents are interested in environmental protection (17.69% - high interest and 64.51% average). Respondents, which is significant for the GreenerAge project, indicated that they explained the low interest in environmental issues - lack of time or a negligible sense of agency. These answers were confirmed in a workshop conducted with a focus group. As a source of knowledge about the environment, the respondents indicated the media - 47.53%, workshops and seminars - 46.05. 31.84% of the respondents indicated the need for educational activities in order to improve the ecological awareness of society. 80.52% of those interested indicated that environmental education should not only cover children and youth, but also include adult members of the local community (Tuszyńska).

Focus studies

In the IDI survey, there were questions about environmental literacy. The respondents unanimously indicated that they read about environmental issues, which indicates their ecological awareness and the need to update it. Respondents, when asked about discussions on environmental issues among friends, answered that they conduct such conversations occasionally 12.5%, often in 37.5% and very often 50%.

3.1.2. Environmental habits

Desk research

Green behaviors, or actions that reduce environmental harm, are becoming increasingly important in Poland as the country works to address environmental issues such as air pollution, deforestation, and waste management. In recent years, the Polish government has introduced several policies and initiatives aimed at promoting green behaviors, such as the National Waste Management Plan and the Clean Air Program. These policies have focused on improving waste management practices, promoting the use of renewable energy sources, and reducing emissions from transportation.

Despite these efforts, green behaviors are not yet widespread in Poland. A study conducted by (Krajewski and Szuba, 2019) found that although awareness of environmental issues is high among Poles, actual engagement in green behaviors is relatively low. The study identified several barriers to green behaviors, including lack of time, lack of resources, and lack of knowledge about how to adopt sustainable behaviors. However, there are also indications that green behaviors are on the rise in Poland.

Table 2 - Source: https://www.cbos.pl/SPISKOM.POL/2020/K_163_20.PDF

To what extent is the condition of the natural environment	Indications of respondents by research dates									
	1993*	1997*	1999	2000	2006	2009	2014	2016	2018	2020



in our country the cause of your fears and anxiety?	in percents									
In very large or large	78	71	58	51	40	50	41	45	68	53
In a small	13	20	30	36	45	38	43	43	25	35
By no means	3	4	6	7	7	7	10	4	4	7
Hard to say	6	5	5	6	8	5	6	8	4	5

* in 1993 and 1997, research on ecology was carried out on behalf of the Institute for Ecology'

Workshop & IDI

Workshops have shown that most of our participants understand the natural environment as a natural setting. This includes forests, grass, parks, trees, birds, animals, climate, and the future of clean air. Based on these associations one can see a strong regional aspect to their thinking. This local thinking has an impact on further responses, related to the need for local action, and multigenerational action. In the workshop, they also discussed behaviors related to an understanding of the environment, including: local activism, individual behavior, appropriate environmental language, segregated rubbish, recycling, and government policy. In general, the participants of the workshops showed a lot of knowledge about the environment - both theoretical and practical, pointing to specific pro-environmental behaviors.

According to our respondents, they have a good understanding of what environmental habits are and can provide numerous examples, such as using eco-friendly transportation, being aware of energy conservation, and saving water.

3.1.3. Environmental footprints

Desk research

We didn't find a lot about the environmental footprint. We found only some kinds of applications that people can use to calculate their footprint.

Workshop & IDI

In the IDI survey, respondents were asked about several carbon footprint issues. Most of the respondents indicated that they often (25%) and very often commute to work or the city by bicycle or public transport. Although they also indicated that they use their own car to run errands in the city, 37.5% very often, 25% often. Interestingly, the respondents describe carbon footprints in a different way than the carbon footprint, because they mention behaviors that reduce carbon footprints, but the term is unfamiliar to them.

3.1.4. Environmental and climate impacts

According to our desk research, the most significant issue is ecological awareness. One of the basic components of environmental awareness is knowledge of the environment and ecology. This knowledge is provided primarily through education. Ecological sensitivity is one of the most important components of ecological awareness. These are the inner beliefs about human interdependence and nature model all pro-ecological behavior. Research on environmental awareness in Polish society (Burger 2005, Cichy 1997, Domka 2001, Gliński 1988) confirms that it remains relatively low. In such a situation, all projects are aimed at increasing the level of environmental awareness. Awakening the universal sense of personal responsibility for the state of the environment is possible primarily through the systematic formation of attitudes characterized by sensitivity and respect for nature, as well as persistent striving for contact with the environment and rational use of it (Tworek 2002).

Workshop & IDI

We need more educational programs, events, and tools to introduce environmental content. Perhaps it is a good idea not to focus on age groups, but rather to build multigenerational competencies and add green competencies relevant to each group.

3.1.5. Habits and behaviour change

According to research conducted by CBOS last years, Poles exhibit a high level of concern about the state of the natural environment in the country, but express less concern about the state of the environment in their immediate surroundings. However, the dominant view is that individual actions can have an impact on the environment, and both the respondents themselves and their families can contribute to improving the environment in their town. There has been a significant increase in the percentage of people declaring taking action for the protection of the environment, such as segregating household waste and collecting recyclable materials. Additionally, more households are reducing their consumption of electricity, gas, and water, although this is often motivated by economic reasons rather than a pro-ecological stance.

To create lasting change, it is crucial to build long-term awareness and understanding of the individual's impact on environmental processes. Our research shows that changing awareness is essential before changing habits, and introducing changes gradually and with a focus on the process can lead to deeper and more effective changes. It is also essential to show people the wider impact of individual and social changes, as this can help to bring about change at the local and central government level.

Given the number of projects aimed at promoting pro-ecological behaviors, we believe that it is vital to view behaviors as part of a process. This approach can help to build momentum and encourage individuals to continue making changes in their daily lives.



Worskhop & IDI

Our workshops and interviews have revealed that our participants are highly motivated by the future of the environment, with a strong desire to create a better world for their grandchildren and for economic reasons. While they report having a good understanding of ecology, they express a need for ongoing training to deepen their knowledge of environmental issues.

During our interviews, we learned that participants frequently read about environmental issues (100%) and discuss topics such as environmental pollution, climate change, and energy consumption with friends (50%). Many participants engage in pro-ecological behaviors, such as waiting until they have a full load before doing laundry (100%), washing dirty clothes without prewashing (50%), collecting and recycling used paper (62.5%), and bringing empty bottles to a recycling bin (100%). Other behaviors, such as driving on freeways at speeds under 100kph (37.5%), pointing out unecological behavior to others (37.5%), buying products in refillable packages (25%), and purchasing seasonal produce (75%) were also highlighted.

Our participants are committed to being eco-conscious in other areas of their lives as well, including heating their homes in an environmentally friendly way (25%), adopting green behaviors like sewing reusable bags, segregating rubbish, educating their children, and engaging in social action such as planting trees. They also observe and admire green behaviors in others, such as picking up garbage from the street, using reusable bags, collecting rainwater in the garden, and growing plants.

Despite their individual efforts, participants acknowledged that their actions alone may not have a significant impact on the environment. This highlights the need for collective efforts to make a real difference. Overall, our participants demonstrate a deep concern for the environment and a strong willingness to take action to create a more sustainable future.

3.2. Existing practices/initiatives/projects

We have gathered a variety of free publications and initiatives targeted towards seniors (50+) with a focus on eco-consciousness. Among these initiatives are projects addressing local eco issues such as Ekomokradła, which aims to promote the value of wetlands and combat misconceptions about their usefulness. To maintain these valuable ecosystems, it is crucial to shape appropriate social attitudes, including intergenerational projects such as the Intergenerational Upcycling Handbook and educational materials on YouTube.

We also found platforms like "I have the right and know to act," which provides environmental activities for seniors such as community gardening, tourist and ecological guides, park revitalization projects, and webinars on the kind of nature we want to leave for our grandchildren. In addition, social actions such as the "Eco farm" for seniors provide organic and healthy food while promoting eco-education for adults.

We also came across several social initiatives, such as the Eco Farm for Seniors, which aims to activate people aged 60+ while enabling them to use healthy, organic food, fruits, and vegetables, and provide eco-education for adults. The Wrocław Senior Center has also prepared occasional meetings in April 2021, including workshops on "EKOedukacja for adults," organized in collaboration with Ekolandia.edu and Ekosystem. Other initiatives include "Grunt to Zabawa," a social action aimed at developing environmental literacy, and "Seniors for Climate," which aims to increase civic activity and knowledge of seniors from Legnica in grassroots initiatives for greenery and climate change mitigation. Additionally, the "Bądź Eko w Swoim Mieście = Środa Seniora" (Be Eco in Your City - Wednesday for Seniors) event for seniors includes elements of environmental education. Our list for 2021-2030 includes over 100 collected initiatives, and we can identify the most popular ones based on this data.

Most of these initiatives are funded by EU grants and implemented by local groups, NGOs, and associations. However, due to their small impact, these solutions do not scale. The majority of these projects have a local focus, emphasizing the importance of people looking at their immediate environment. While it is important to pay attention to the local community, these initiatives do not have a broader impact on the country, leading to limited development. In order to effect change in behavior and environmental literacy, it is essential to have a wider impact that includes different societal groups and not just on a local level.

Workshop & IDI

During the survey, the respondents drew attention to the need for more social actions. moreover, they indicated that they do not want to meet only among seniors, but they want multigenerational meetings. In response to a question: What do you need to improve your green behaviour? They indicated that they need more common consciousness. They indicated: lack of longer strategi and longer actions, a lack of building community, a lack of gathering people (especially between generations)

3.3. Existing (digital) skills

Digital competences of the elderly are very important in the context of seniors' activity in old age. They perform many important functions, prepare seniors for civilizational changes and universal technologyzation of all areas of everyday life. Without digital competences, the daily functioning of seniors is more difficult, it also promotes loneliness and exclusion.

3.3.1. Older adults

Desk desearch

Polish seniors, similarly to their peers in other countries, most often look for current news about the world or health information on the Internet, followed by content related to



tourism or entertainment. However, there is a large part of this group that does not use the Internet at all and is ashamed to talk about it. This is a very sensitive topic at present, which also creates reluctance to learn digital competences.

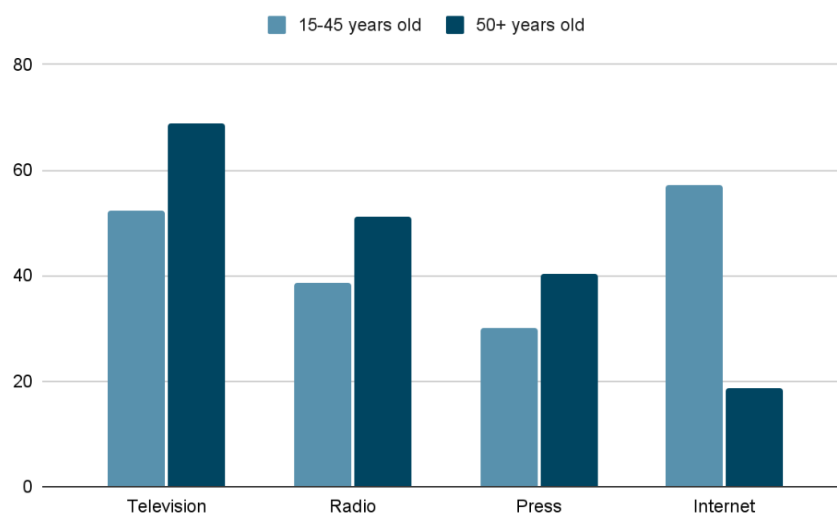


Figure 1 - Percentage of people who consider a given medium as necessary to obtain information. Polish edition of the World Internet Project, 2013. Source: https://www.iab.org.pl/wp-content/uploads/2021/02/Silwersi-w-sektorze-komunikacji-marketingowej_raport_01.2021.pdf

In Poland, only 43% of people aged 65-74 use the Internet. This is very little compared to other age groups in our country. In Poland, the Internet is used by 87% of people aged 45-54 and 70% of people aged 55-64 (Source: Eurostat, 2020). There is a downward trend, but only 43% are the oldest, which is well below the EU average. Compared to 2019, when the result was 34.1% for people aged 65-74, according to GUS research (Główny Urząd Statystyczny - Main Statistical Office), this is a much better result. However, there are still few seniors using the Internet, taking into account the aging society, according to the predictions of the Central Statistical Office of Poland, people aged 60+ in 2050. will constitute about 40% of Polish society.

Major changes occurred during the pandemic, the lack of digital competences had and still has a big impact on the functioning of seniors subjected to social isolation. People who had not used the Internet before had no possibility to maintain relationships with the help of new technologies. The report on the study "Use of information and communication technologies in households" (Central Statistic Office, 2020) indicated that as many as 30% of seniors 65+ used the Internet in the last 3 months, 64.6% never used it. About 12% of people from the digital and non-digital groups of 65+ people used the Internet in one or two areas of Internet use, and 14% carried out their online activity in three or four areas (which places them at the level of intermediate people using a computer and the Internet relatively freely). On the other hand, only 3% of older people used the Internet extensively or very extensively (in more than five areas), i.e. they freely browsed websites, browsed search

engines, used e-mail, were active in social media, made shopping and banking transactions, used from culture, e.g. through the use of streaming services.

Only 3% of people aged 65+ used the Internet freely before the pandemic, less than 27% in a limited way. There is a significant need for digital education of the elderly, especially from the younger groups of seniors, as well as the need to expand the competences of those who are digitally excluded (those who can perform basic computer and network activities, but have very limited skills and distrust of Internet tools).

Worskhop & IDI

In terms of digital skills our respondents they rate their skills well. Based on GAB the most used device is the mobile phone (8) and computer (8) and finally the tablet (4). The computer and mobile phone is the device used for more years (with an average of 20 years), and the tablet (with an average of 5-12 years). As for their purpose, the computer mainly for email and internet research, followed by social networks. The mobile phone was used mainly for calls, followed, respectively, by info search, social media, tablet was used for emails, info search and social media. According to the interviewees' answers, they were taught how to use the computer or mobile device first by theyself (8) the Teacher/trainer with 3 answers, followed by Family with 3 answers. To find out about new digital technologies, the majority responded for the Family, with 6 answers, followed by TV with 5 answers. From the answers, we can conclude that the interviewees' skills in using the computer are limited, with positive values in the questions relating to the simplest operations.

3.4. Existing training

Our research has uncovered a range of free publications and initiatives that specifically target individuals over 50 years old, with an emphasis on promoting environmentally conscious behaviors. Notable among these initiatives are projects that address local ecological issues.

3.5. Existing policy

The ecological policy in Poland recognizes the importance of engaging people 55 and older in sustainable behaviors and promoting environmental awareness among this group. There are various initiatives and policies in place aimed at promoting eco-consciousness among seniors and encouraging them to participate in environmental protection efforts. For example, the Polish government has introduced the "Clean Air" program, which provides funding for households to replace old, inefficient heating systems with newer, more environmentally-friendly models. The program is aimed at helping seniors, who are often more vulnerable to the health effects of air pollution, to improve the air quality in their homes and communities. There are also various educational programs and initiatives focused on promoting eco-consciousness among seniors, such as the "Senior for Climate"



project, which aims to raise awareness among seniors about climate change and encourage them to take action to reduce their carbon footprint. The project provides seniors with practical advice on eco-friendly practices and encourages them to participate in community efforts to reduce emissions and promote sustainability.

4. Needs and gaps

4.1. Knowledge and behaviour

4.1.1. Environmental literacy

Based on our research and IDI findings, it appears that there is a high level of awareness regarding green behavior. While there are some differences observed based on education level, our respondents are expressing a desire to learn more about green behaviors. It is crucial to involve individuals with less knowledge in social actions related to sustainability. Our respondents emphasize the importance of learning through practical application rather than solely relying on theoretical knowledge.

4.1.2. Environmental habits

According to our respondents, the top priority is to enhance green competence and habits by promoting more social actions. While knowledge transfer on the platform is valuable, the inclusive element and promotion of collective efforts are even more crucial. Additionally, our respondents stressed the significance of involving multiple generations in these actions. They want to exchange knowledge and learn from younger individuals as well.

4.1.3. Environmental footprints

Non information on this topic.

4.1.4. Environmental and climate impacts

The majority of our participants are keen on gaining knowledge and increasing their awareness about environmental issues. They read up on the subject matter and also engage in discussions with friends. Our respondents also highlighted that they pass on their green knowledge to the younger generation, including their grandchildren. Although an educational platform with user-friendly language would be beneficial for them, it should only be one of the many components that encourage a shift towards greener habits. For them, it is crucial to establish a supportive and motivating community that can work towards this change together.

4.1.5. Habits and behaviour change

According to our respondents, the challenges of adopting pro-environmental behavior are primarily linked to community building. While individual actions are important, they believe



that it is only through collective actions that a significant shift in awareness and behavior can be achieved.

4.2. Practices/initiatives/projects

Based on the data that we collected, it seems that there are a variety of eco-friendly initiatives that are popular among seniors in the 50+ age group in Poland. Some of the most notable initiatives include:

- “Ekomokradła”: a project focused on promoting the value of wetlands and combatting misconceptions about their usefulness.
- “Intergenerational Upcycling Handbook”: an ebook and educational materials focused on upcycling and sustainable living, with a particular emphasis on intergenerational learning.
- “I have the right and know to act”: an educational platform with various environmental activities for seniors, including community gardening, park revitalization, and webinars on environmental issues.
- “Eco farm for seniors”: a project aimed at promoting organic food and ecoeducation for seniors.
- Workshops “EKOedukacja for adults”: occasional meetings focused on environmental education, organized in collaboration with Ekolandia.edu and Ekosystem.
- “Grunt to zabawa”: a social action focused on developing environmental literacy.
- “Seniors for climate”: a project aimed at increasing civic activity and knowledge among seniors in the area of grassroots initiatives for greenery and climate change mitigation.
- “Bądź eko w swoim mieście”: a Wednesday event for seniors with elements of environmental education.

Numerous initiatives identified in our research, as well as those highlighted during workshops and individual interviews, are geared towards encouraging people to focus on their immediate environment and engage with their local communities. While these actions can effectively raise awareness and promote sustainable behaviors at the individual level, they may not be enough to drive large-scale change at the national or international level. To make a greater impact, it is necessary to engage a broader range of society groups and effect change at a systemic level. This could involve collaborating with government agencies, businesses, or other organizations to promote policies and practices that support sustainability, or building coalitions of individuals and groups to effect change on a larger scale. Ultimately, while local-level action is a vital part of the solution, it is insufficient on its own to bring about the kind of transformative change required to address the urgent environmental challenges we face.

4.3. Skills

4.3.1. Older adults

The data collected in the literature review and the workshops and IDI highlights the importance of combining different skills and perspectives when it comes to environmental



literacy. Because the future and the present are interconnected, it is necessary to think about both when considering environmental issues. This means that we can't just focus on one skill or aspect of sustainability in isolation, but need to consider how different skills and perspectives can work together to address environmental challenges. Additionally, after analysis of communication in workshops has been underlined the importance of future literacy and future thinking, as creating positive futures requires planning and decision-making that takes into account long-term impacts and possibilities. By developing these skills and perspectives, we can create a more sustainable and nature power world for ourselves and future generations.

4.3.2. Trainers

Based on interviews with our respondents, it is crucial for trainers to use language that is clear and easy to understand. They must also maintain an atmosphere of respect and equality in their coaching relationship. Adopting a tone that is more mobilizing than commanding is also significant. Additionally, the trainer should possess good listening skills and be attentive to what the workshop participants have to share.

4.4. Training

In the context of pro-environmental behavior training, our respondents emphasized that motivation for action is just as crucial as factual knowledge. It is also important to highlight the possibility of individual impact on the future of the planet. Our respondents often expressed feeling powerless as individuals, so it is crucial to emphasize that their actions can indeed make a difference.

4.5. Policy

During research and IDI and workshops, we noticed increasing interest in ecological policies among the older generation in Poland and the need to promote pro-environmental behavior among people aged 55 and above. To do so, it is important to highlight the benefits of eco-friendly practices, provide accessible information tailored to this age group, and foster a sense of community and collaboration. It's important to emphasize that a multi-faceted approach is necessary to promote sustainable behavior and build collective awareness, rather than relying solely on policies and recommendations.

5. Challenges and barriers

5.1. Compendium

To ensure the success of the compendium, it is crucial to use language that is easy to understand and employ non-formal educational methods that encourage and facilitate



action. The goal is to make the information accessible and engaging to a wide audience, including those with limited formal education or unfamiliar with technical jargon. This can be achieved through the use of visuals, practical exercises, and interactive workshops that provide hands-on learning opportunities. By creating a supportive and inclusive learning environment, participants can be empowered to take action and make a positive impact on the environment.

5.2. Platform

Based on our data collection, we found that readability is a crucial aspect of web content accessibility. To ensure that our content is accessible to all users, it's important to provide options for font size and other formatting features. These guidelines are outlined in the Web Content Accessibility Guidelines (WCAG) Overview, which outlines best practices for web accessibility. It's important to note that accessibility isn't just important for elderly or disabled individuals, but for all users who may be accessing our content in different situations or contexts.

In addition to readability, we found that providing short and concise information is also crucial in a fast-paced world. Microlearning, which involves providing bite-sized pieces of information that can be quickly and easily consumed, is an effective teaching approach for individuals of all ages. By providing short and easily digestible information, we can ensure that our content is accessible and engaging for all users.

5.3. Trainer Manual

Based on our data, we found that practical skills are the most important for individuals aged 55+ when it comes to environmental literacy. While it's important to provide information about the general environmental process and climate change, this information needs to be complemented by simple, everyday practices that individuals can easily implement in their lives. It's also crucial for individuals to understand the impact of their actions, which can be achieved by presenting different scenarios for the future of our planet and environment, and creating tools to demonstrate how each decision can influence the future. This can be done through the use of tools such as calendars, games, or other interactive platforms where individuals can track and sign their commitments to taking positive actions for the environment.

However, we also identified several challenges and barriers that older individuals may face in accessing and using resources related to environmental literacy. These challenges include limited digital literacy, lack of access to technology or internet, and a preference for in-person learning or printed resources. It's important to address these challenges by providing accessible and user-friendly resources, as well as alternative formats such as printed



materials or in-person workshops. By addressing these challenges, we can ensure that individuals of all ages have the opportunity to develop the practical skills and knowledge necessary to promote environmental literacy and sustainability.

5.4. Policy booklet

Based on the research conducted, it is evident that policies aimed at enhancing environmental literacy should adopt a holistic approach, encompassing various factors. Implementing policies in isolation will not achieve the desired outcome, as is the case with renewable energy programs. Therefore, it is crucial to consider the interconnectivity of environmental issues and the various stakeholders involved in their implementation.

In creating a policy booklet on environmental literacy, it is important to establish clear goals and objectives that reflect a holistic approach. This could involve collaborating with relevant stakeholders, including experts in environmental education, community leaders, and policymakers, to ensure a comprehensive and effective policy. Additionally, the language and format of the booklet should be clear and accessible to ensure its widespread dissemination and understanding. Finally, it is essential to evaluate and monitor the implementation of the policies outlined in the booklet, in order to track progress and identify areas for improvement.

6. References

Abramowicz D., Krzyżyńska H., Żuk O., *Poziom świadomości ekologicznej mieszkańców, i turystów w Międzyzdrojach*, [w:] A. Kostrzewski, D. Abramowicz (red.). *Miasto i gmina Międzyzdroje – wybrane problemy. Geoprzestrzeń 2*. Bogucki Wyd. Nauk. Poznań 2019

Adaptacja do zmian klimatu, Raport z badania listopad 2018, on-line: <https://www.gov.pl/attachment/582eff4b-9307-4278-b820-207e47477068>, (09.07.2023)

Badanie świadomości i zachowań ekologicznych mieszkańców Polski, Raport z badania trackingowego, on-line: <https://www.gov.pl/web/klimat/badania-swiadomosci-i-zachowan-ekologicznych-mieszkancow-polski-w-2020-r-badanie-trackingowe>, (09.07.2023)

Bąk J., *Zarządzanie środowiskiem i zarządzanie środowiskowe*, Kraków 2021

Bednarek-Gejo A., *Świadomość ekologiczna studentów*, Hygeia Public Health 2012, 47(2): 201-206

Budniak A., *Zielona szkoła w kształtowaniu kompetencji środowiskowych uczniów klas początkowych*, *Chowanna T. 1*, (2018), s. 179-198

Edukacja ekologiczna, Wybrane problemy, M. K. Terlecka (red), Krosno 2014

Efekty środowiskowe w ramach NSRO 2007-2013, on-line: https://www.ewaluacja.gov.pl/media/33264/Broszura_PL_ostateczna.pdf, (09.07.2023)



Fudali I., Smolińska A., *Świadomość ekologiczna jako instrument realizacji polityki ekologicznej w Polsce, Stanach Zjednoczonych Ameryki I Australii*, Rocznik Politologiczny, 11/2015

Green generation, Izba Gospodarki Elektronicznej on-line: <https://eizba.pl/dla-czlonkow-eizby/dokumenty-strefy-dla-firm/raport-green-generation-2020/>, (09.07.2023)

Jednotematyczne badanie świadomości i zachowań ekologicznych mieszkańców Polski, Raport z badania, Listopad 2020 r. on-line: <https://www.gov.pl/web/klimat/badania-swiadomosci-ekologicznej>, (09.07.2023)

Kacak I., *Analiza oferty edukacyjnej doskonalącej kompetencje proekologiczne pracowników*, Edukacja ustawiczna dorosłych 4/2015

Kaniewska M., Klimski M., *Kształtowanie świadomości ekologicznej – perspektywa Lifelong Learning*, on-line: https://www.academia.edu/11460069/Kszta%C5%82towanie_%C5%9Bwiadomo%C5%9Bci_ekologicznej_perspektywa_Lifelong_Learning, (09.07.2023)

Kłos L., *Świadomość ekologiczna Polaków - przegląd badań*, Studia I prace Wydziału Nauk Ekonomicznych I Zarządzania 42/t. 2 on-line: https://wneiz.pl/nauka_wneiz/sip/sip42-2015/SiP-42-t2-35.pdf

Kompetencje przyszłości, Stefan M. Kwiatkowski (red.) Warszawa 2018

Kopczewski M., *Kształtowanie świadomości ekologicznej - formą edukacji na rzecz bezpieczeństwa*, Przegląd Naukowo-Metodyczny. Edukacja dla Bezpieczeństwa nr 4, 89-97

Kopczewski M., *Edukacja ekologiczna jako ważny komponent edukacji obronnej społeczeństwa*, Zeszyty Naukowe Akademii Marynarki Wojennej, ROK XLX NR 4 (179) 2009

Kubasik A., *Obszary kreowania kompetencji ekologicznych przedsiębiorstwa*, Studia Ekonomiczne, Zarządzanie strategiczne w przedsiębiorstwie 2006/37, ss. 157-172

Kwiatek A., Skiba M., *Świadomość ekologiczna młodych ludzi*, Zeszyty Naukowe Politechniki Częstochowskiej Zarządzanie Nr 28 t. 2 (2017) s. 127–136

Malinowska J., *Edukacja Środowiskowa z Metodyką*, Instytut Pedagogiki Uniwersytetu Wrocławskiego Wrocław 2020

Matejun M., *Świadomość ekologiczna w sektorze MŚP- studium przypadku* [w:] Grądzki R. (red.), *Rozwój zrównoważony. Uwarunkowania organizacyjne i techniczne*, Wydawnictwo Media Press, Politechnika Łódzka, Łódź 2008, s. 126-138.

Niezgoda A., *Styl życia a świadomość ekologiczna konsumentów na rynku turystycznym – relacje, uwarunkowania i problemy*, Ekonomia — Wrocław Economic Review 23/4 (2017) Acta Universitatis Wratislaviensis No 3823

Nycz - Wróbel J., *Świadomość ekologiczna społeczeństwa I wynikające z niej zagrożenia środowiska naturalnego (na przykładzie mieszkańców województwa podkarpackiego)*,



Zeszyty Naukowe Politechniki Rzeszowskiej, Nr 286 Ekonomia i Nauki Humanistyczne z. 19 (3/2012) 2012

Patrzalek W., *Znaczenie świadomości ekologicznej w zachowaniach konsumenckich*, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, nr 501/2017

Polityka Ekologiczna Państwa 2030 on-line: <https://www.gov.pl/web/ia/polityka-ekologiczna-panstwa-2030-pep2030>, (09.06.2023)

Papuziński A., *Świadomość ekologiczna w świetle teorii i praktyki*, Problemy ekorozwoju 2006, vol. 1, No 1, str. 33-40

Sowa F., *Świadomość ekologiczna i jej wpływ na ekologizację społeczeństwa i gospodarki*, Rynek – Społeczeństwo – Kultura | Numer 4(30)/2018

Tuszyńska L., *Świadomość ekologiczna społeczności lokalnych. Oczekiwania a rzeczywistość*, Rocznik Świętokrzyski. Ser. B – Nauki Przyr. 34: 149–160,

Świadomość Ekologiczna Polaków. Komunikat z badań. on-line: https://www.cbos.pl/SPISKOM.POL/2020/K_163_20.PDF, (09.07.2023)

Tuszyńska L., *Świadomość ekologiczna społeczności lokalnych. Oczekiwania a rzeczywistość*, Rocznik Świętokrzyski. Ser. B – Nauki Przyr. 34: 149–160,

Witek L., *Zjawisko greenwashingu a zachowania konsumentów*, Problemy Zarządzania, Finansów i Marketingu 32, 123-134

Ziolo I., *Edukacja środowiskowa na poziomie nauczania zintegrowanego*, Wydawnictwo Naukowe Akademii Pedagogicznej Kraków 2002

Żyła M., *Świadomość ekologiczna jako element zrównoważonego rozwoju przedsiębiorstwa*, Zeszyty Naukowe Politechniki Częstochowskiej Zarządzanie Nr 14 (2014) s. 115-125

