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POLISH CLIMATE POLICY IN THE OPINION OF YOUNG POLES – A PILOT SURVEY

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ABSTRACT: As established in the Europe 2020 Strategy and the European Green Deal, combating climate change is one of the central elements of the European Union's policy. As a member, Poland is obliged to develop and implement climate policy in order to reduce greenhouse gas emissions so climate neutrality can be achieved by 2050. In the context of low political priority for the Polish government, the study aims to identify the level of awareness, perceptions, and attitudes of young Poles towards climate change, as well as their assessment of climate policy. To achieve this aim, a non-random sampling pilot survey was conducted among young Poles in spring 2022, using an electronic questionnaire made available via social media. While the results show respondents' awareness of and rather high interest in the threats posed by climate change, in-depth knowledge of climate change, climate policy, and its socio-economic implications is lacking. The progress in and effectiveness of climate policy in Poland is rather assessed negatively. Based on the results, key directions for future actions are suggested for the young generation to become a force in creating a more effective climate policy.

KEYWORDS: climate perception, young generation, Poland, climate policy, environmental economics

Introduction

The climate crisis is considered one of the most important threats to sustainable development, in particular threatening the sustainability of meeting the needs of the increasing global population (e.g. IPCC, 2018, 2022a; Raworth, 2021). Climate change already poses a visible threat to the functioning and survival of natural ecosystems, while negatively affecting the social and economic dimensions of human existence (e.g. Adger et al., 2022; Cui et al., 2021; Chen et al., 2011; European Parliament, 2018; Gawrych, 2022; Kundzewicz & Juda-Rezler, 2010; Kusangaya et al., 2014; Lobell & Gourdji, 2012; McKinsey Global Institute, 2020; Mazhin et al., 2020; Rocque et al., 2021; Watts et al., 2015; Zhang & Cai, 2013; Zhai et al., 2018).

As climate change may cause serious economic and social damage and is driven by human activity (Cook et al., 2013, 2016; IPCC, 2018, 2022a; Lynas et al., 2021; Zhai et al., 2018), it is necessary to reduce greenhouse gas emissions (United Nations, 1992, 2015a). One instrument is developing efficient multilevel governance, as actions at the global, regional, national, and local levels are required (Di Gregorio et al., 2019; Jordan et al., 2015; Marquardt, 2017). In order to develop effective international coordination mechanisms, not only numerous challenges of international multi-level cooperation should be addressed (Di Gregorio et al., 2019). Also, coherent and efficient policies at lower levels of political governance should be developed (Grundmann, 2007; Manuel-Navarrete, 2010; Menk et al., 2022; United Nations, 1992, 2015b). Political will plays a key role in the development and implementation of climate policy by governments. When this is lacking, citizens may function as important stakeholders, putting pressure on the government (Leiserowitz, 2020; OECD, 2014; United Nations, 2015b). Therefore, climate change perception among individuals and societies is considered a significant factor and driver for the development and implementation of effective climate policy measures (e.g. Ruiz et al., 2020; Dabla-Norris et al., 2023; van Valkengoed et al., 2022; UNDP, 2021; Xie et al., 2019; Bergquist et al., 2022; Weber, 2016).

As a member of the European Union and with obligations following the European Green Deal, Poland is required to develop and implement climate policy in order to reduce greenhouse gas emissions so climate neutrality can be achieved by 2050. In reality, its involvement in climate policy is very weak (Swacha et al., 2022). As every citizen of the Republic of Poland is also an EU citizen, this gives rise to certain obligations, such as active participation in the creation and implementation of climate policy within the framework of civil society. Awareness regarding climate change and climate policy is the basis for becoming a salient stakeholder. The focus of this study is on young Poles because of their important role in the transition towards a more sustainable society. The aim is to identify their level of awareness and attitudes towards climate change, as well as how

they assess the progress and effectiveness of climate policy and related actions taken by the Polish government.

An overview of the literature

During the first decade of the 21st century, climate policy increased in importance on the international agenda. The climate crisis was acknowledged by wellknown people such as Gore (2006), Gupta et al. (2007) and, among others, the Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC) and the Stern Report (Stern et al., 2006). Policy measures were included in the policies of the European Union (e.g. European Commission, 2000, 2005, 2007). An intensification of international initiatives launched at the end of the 20th century could be observed. This includes the replacement of the Kyoto Protocol from 1997 by the Paris Agreement in 2015 (United Nations, 2015a) and the increasing importance of the EU climate and energy policy after 2020 in line with the European Green Deal (EGD) (European Commission, 2019). Meanwhile, the scientific community proposed lowering the safe limit for global warming from 2°C to 1.5°C (IPCC, 2018). Additionally, recent research has pushed back the timeline for achieving a 1.5°C increase in average global temperature from the end of this century to around 2040, once again pointing to human activity as the main culprit of climate change (IPCC, 2022b). Even this may be too optimistic, as is shown by the fact that July 2023 was the hottest month on Earth in known human history, with an average temperature of 16.95°C, beating the record from 2019 (16.63°C) (DW, 2023).

The causes of climate change, its consequences, and mitigation and adaptation policies have been extensively researched. The main directions of research include the role and involvement of different actors and stakeholders in climate change policies (e.g. Arijit et al., 2017; Peregrino de Brito, 2022; Mulema et al., 2022; Swacha et al., 2022; Jastrzębska, 2019; van Ginkel et al., 2020; Baba et al., 2021), as well as climate change and climate change risk perception and its determinants (e.g. Van der Linden, 2015; Shao et al., 2014; Steynor & Pasquini, 2019; Lee et al., 2015; Cheval et al., 2022; European Union, 2021; Ruiz et al., 2020; Funatsu et al., 2019; van Valkengoed et al., 2021, 2022; Godawska, 2020; Marlon et al., 2022; Weber, 2016).

A variety of determinants of perceptions of and attitudes toward climate change have been identified, such as political orientation and ideology, race and gender, age, education, income, and macroeconomic factors (Shao et al., 2014; Kabir et al., 2016; Luo & Zhao, 2019; Ruiz et al., 2020; Lee et al., 2015). Ruiz et al. (2020) found evidence that direct factors, such as the prevailing customs, rules and ideas, and experiences related to weather phenomena, as well as indirect factors, including the level of community development and the dissemination of information on climate change, influence these perceptions and attitudes. Spence

et al. (2011) argue that direct experience with the negative effects of climate change increases the willingness of consumers to engage in more sustainable consumption behaviour. Rudiak-Gould (2014) emphasised the role of climate science communication and argued that climate awareness is a better predictor of perceptions of climate change than exposure to the environment. Similar conclusions were reached by Lee et al. (2015). Based on surveys conducted in 119 countries, they showed that on a global scale, education is the strongest predictor of perceptions of and attitudes toward climate change. However, differences at the regional level were observed (see also Van der Linden, 2015).

Van Valkengoed et al. (2021) distinguish three main types of climate change perceptions: (i) the belief that climate change is really taking place, (ii) beliefs about the nature of the causes of climate change (i.e., whether the cause is anthropogenic or not), and (iii) beliefs about the consequences of climate change (i.e., the magnitude of the positive or negative impacts). These perceptions are of great importance, as they influence mitigation and adaptation behaviour, as well as support for climate policies (e.g. Ruiz et al., 2020; Dabla-Norris et al., 2023; van Valkengoed et al., 2022; UNDP, 2021) by influencing the level of public acceptance of some solutions such as pricing policies (e.g. Dabla-Norris et al., 2023; Xie et al., 2019, Bergquist et al., 2022) or the willingness to change individual behaviour (e.g. Xie et al., 2019; van Valkengoed et al., 2022; UNDP, 2021; Weber, 2016). Moreover, climate change perceptions can be a significant driver of political change in this area in case of insufficient political will (Leiserowitz, 2020; OECD, 2014; United Nations, 2015b). Especially the young generation plays a significant role in the transition towards a more sustainable society by way of more sustainable consumption, developing the circular economy, and supporting climate change mitigation and adaptation (e.g. Ziesemer et al., 2021; Nordic Circular Hotspot, 2021; Global Center on Adaptation, 2021; Einhorn et al., 2023).

Poland, as a member state of the European Union and a party to the Paris Agreement, is obliged to implement a policy aimed at achieving climate goals at different administrative levels (from the local to the national level). Swacha et al. (2022) argue that, despite some successes in the development of climate policy in the late 1990s and early 21st century, Poland is considered one of the main opponents of the ambitious EU climate goals (e.g. Kundzewicz et al., 2019; Skjærseth, 2018; Karaczun, 2018). In 2022, the country, together with Italy, was the second largest European CO₂ emitter when considering the combustion of fossil fuels for energy purposes (EUROSTAT, 2023), while its energy sector is mainly based on coal (Tomaszewski, 2020). The lack of political will to develop effective climate goals (Smoleń, 2023; Skoczkowski et al., 2018). For this reason, attitudes and initiatives at the level of civic society may turn out to be indispensable for changing this situation.

There is a long history of research on environmental awareness, climate perceptions, and assessment of different types of environmental policy, including climate policy. Already in the 1980s, T. Burger and B. Poskrobko were pioneers in this field in Poland. Yearly research on these issues was carried out between 1992 and 2011 by the Public Opinion Research Center, commissioned by the Institute for Sustainable Development (Kłos, 2015). This research has been continued since 2011 by the cyclical "Studies of ecological awareness of the inhabitants of Poland" conducted by the Ministry of Climate and Environment. This research also includes the single-thematic "Study on adaptation to climate change". On the basis of data from 2009-2014, the Public Opinion Research Center TNS (2015) concluded that "[the] issue of climate change is not widely known to the respondents, and information on this subject is needed and desirable". Over the years, the percentage of respondents who realised that climate change was real increased from 55% to 60% (CBOS, 2014). In 2022, 75% of respondents believed that extreme weather events occur more often, predominantly in the world (49%) but also in Poland (26%) (Ministry of Climate and Environment, 2022). There is also a growing awareness of the anthropogenic causes of climate change - between 2009 and 2018, the percentage of respondents indicating the role of human beings increased from 65% to 75% (CBOS, 2018). The perception of climate change as a significant threat to humanity has also increased – in 2009, only 15% of the respondents considered that "climate change is currently one of the greatest threats to modern civilisation", and 56% believed that" [climate change] poses a certain threat and is one of many dangerous phenomena", while in 2018 the percentages were 29% and 54% respectively (CBOS, 2018). A similar trend can be observed regarding Poles' individual involvement in adaptation activities. In 2018, only 10% of respondents took any action, while 83% showed complete passivity. In 2022, the percentages were 34% and 61%, respectively (Ministry of Environment, 2018; Ministry of Climate and Environment, 2022). There is no indication of the young generation's significant role in adaptation activities. In 2018, individual actions were mostly taken by people in the 15-24 age group (88.1% of respondents from this group), while in 2022, the greatest involvement in this area was shown by people aged 30-44 (40% of all respondents) and 45-64 (37% of all respondents).

Poles tend to have a different perception than citizens of other EU countries. While in the EU as a whole, in 2021, climate change was considered the most important civilisational threat, in Poland, this threat only became 4th in 2018 (CBOS, 2018). While 11% of the Poles considered climate change to be the most dangerous, this percentage was 18% for the EU as a whole (European Union, 2021). In particular, the age group 15-24 considered it a "very serious problem" (83% compared to 78% for the whole sample from the EU27). Also, the willingness to undertake action is lower in Poland than the EU average – 52% declared involvement in actions against 62% for the whole EU (European Union, 2021). The age group 15-24 showed similar initiative as the age groups 25-39 and 40-54

(64%, 66%, and 65%, respectively). Also, at a global level, Poland shows a lower climate change perception, where 59% of the Polish respondents declared that they believe that climate change is real, which placed the country in the 31st place and lowest among researched high-income countries (UNDP, 2021). Moreover, among the Polish respondents aware of the problem, only 57% think comprehensive measures should be taken urgently, giving it the 26th position (UNDP, 2021). Interestingly, a higher level of awareness and engagement was observed in many developing countries.

To the best knowledge of the authors, while extensive research exists on climate awareness and perceptions, there has not been a focus on the climate perception of the Polish young generation in the context of their assessment of the national climate policy. Research conducted by Polish institutions mainly focuses on opinions regarding desirable actions at the local level (Ministry of Environment, 2018; Ministry of Climate and Environment, 2022) on the energy transition aimed at reducing the dependency on fossil fuels (CBOS, 2018) and on the need for practical implementation of mitigation and adaptation policies (CBOS, 2018). Research at the European level tends to focus on the responsibility of individual actors and practical policy measures, such as limiting imports of fossil fuels (European Union, 2021). Instead of focusing on specific issues such as the Polish energy policy or decarbonisation, a small group of researchers has tried to characterise and evaluate Polish climate policy in its entirety (e.g. Swacha et al., 2022; Kundzewicz et al., 2019; Skjærseth, 2018). This study aims to partially fill this gap by identifying the perception and attitudes of young Poles towards climate change, as well as how they assess the progress and effectiveness of the Polish government's climate policy with the use of a pilot survey conducted between April and June 2022.

There are some limitations to the study presented. Due to its pilot nature, the method of (non-random sampling using the snowball method) and the size and characteristics of the sample, the results cannot be generalised for the whole Polish younger generation. Furthermore, the survey questions did not embrace all the factors related to the possible impact of the young generation on shaping the national climate policy, only focusing on climate change perception and assessment of the climate policy of the Polish government. Nevertheless, the results of the pilot studies can be a basis for further research on the role of the young generation in shaping climate policies at different administrative levels.

Research methods

A survey was designed and conducted in electronic form between April-June 2022. The survey questionnaire included 9 substantive questions using a five-point Likert scale and was divided into two parts aiming at:

- identifying the respondents' attitudes and opinions regarding climate change based on three types of perception distinguished by van Valkengoed et al. (2022) (questions 1-6),
- identifying the opinions regarding the level of advancement and effectiveness of the Polish government's climate policy (questions 7-9).

A non-probability sampling method based on quota and snowball sampling was used (Taherdoost, 2016; Sęk, 2015). It was decided to apply the quota sampling method in order to create a convenient sample of young Poles characterised by features that allow for the collection of the most reliable data possible. The following criteria for the selection of respondents were adopted: belonging to the young generation (desirable age of the respondent not exceeding 25), accessibility and readiness to take part in the research, and the expected reliability and honesty while answering survey questions. The questionnaire was made available in electronic form via social media using snowball sampling, i.e. people interested in participating in the study were asked to invite their friends to participate as well. In total, 206 fully completed questionnaires were received. Due to the sample size and method, this research has to be considered a pilot study, and for this reason, basic statistical analysis has been applied. Analysis was carried out in MS Excel and SPSS.

Results of the research

Characteristics of the sample

Of the total number of respondents (N=206), 10.8% were over 25 years old (26-30 years, above the target age), 46.1% were between 21-25, and 43.1% were under 20 years old. While the target group was the age group 18-25, the responses of respondents over 25 years old were included in the overall data analysis for two reasons. First, in accordance with the snowball method, they declared their willingness to participate in the study and provided reliable opinions. Secondly, due to the relatively small sample size, including these responses was considered valuable for the reliability of the results.

The gender division of the sample was 50.5% men and 47.5% women, while 2% of the respondents did not specify their gender. Less than one-third (28.9%) came from rural areas, and the rest from urban areas (38.2% of the respondents lived in a city with over 500,000 inhabitants). Almost all (97.6%) of the respondents studied, and more than half (56.4%) worked.

Climate change perceptions

The first part of the questionnaire included questions identifying the respondents' opinions regarding the essence, importance, and consequences of climate change. The respondents were asked to assess their level of interest in

the issue of climate change, as well as to explain the extent to which they think they are exposed to its positive and negative consequences. Further questions were aimed at identifying the extent to which the respondents are aware of the impact of human activity on the climate and to what extent their actual knowledge about the nature of climate change coincides with the declared one. Finally, the respondents were asked to compare the threat of climate change to other challenges of the 21st century and which of the negative effects are the most important on a national and global scale.

Our findings are based on a comprehensive analysis of the responses from this sample. The reported percentages reflect the aggregated responses of the 206 respondents, providing a general representation of the expressed opinions. While only 65.7% of the respondents were interested in the topic of climate change, a large majority, 86%, considered it a serious problem on a global scale (56.9% strongly agree, 28.9% rather agree). This may imply that while young Poles are aware of the importance of the problem (the climate crisis), this does not translate into interest in the topic and, above all, declared behaviour. Only 10.3% of the respondents declared that they would try to do everything to counteract climate change on a daily basis, while 40.2% declared they would rather take such actions. The large majority of respondents (88.4%) rated their awareness of the consequences of climate change quite highly (50% report to be definitely, and 38.4% to be rather aware of its various aspects). While being aware that these consequences can have a positive character, a majority of 67.6% reported that climate change is already having a negative impact on their lives, and 75.5% expect even more negative impacts in the future.

Three-guarters (74.8%) of the respondents stated that they know what climate change is about (56.4% strongly agree, 22.1% rather agree). Students assessed 6 definitions of climate change, 3 correct and 3 incorrect. More than three-quarters correctly defined climate change. Interestingly, half of the group stating high knowledge of climate change identified an incorrect definition. An example is the definition "Climate change is an increase in global average air and ocean temperatures and widespread melting of snow and ice, rising sea levels, heat waves, and droughts". This is incorrect as it focuses on the impact of climate change, not on the character of the phenomenon. This may imply that there is a need for education on the complexity and statistical nature of climate change. The vast majority of respondents believed that climate change is caused by human activity. A rather large and very large role of human activity was indicated by 83.1%, while the role of natural factors was recognized by 51.5% of the respondents. This confirms that the respondents are aware of the impact of human activity on climate change and that they correctly identify the factors influencing the climate.

The assessment of climate change as the most important threat was confirmed by the answers to the question in which respondents were asked to indicate how serious climate change is compared to other challenges. Almost half of the respondents considered that the threat of World War III (49.5%) and an armed conflict in Europe (45.5%) was more urgent. Less than one-third (31.6%) considered the economic crisis and inflation as more urgent. Moreover, respondents were aware of the overall seriousness of the negative consequences of climate change. The most significant threats are the deterioration of water access and guality (91.7%), the melting of glaciers (91.7%) and large-scale forest fires (91.7%), as well as the spread of various diseases and parasites, the extinction of species. degradation of ecosystems, and extreme weather events (89.8%). This was followed by a decrease in the production potential and volume (70.4%), migrations of animals and plants (71.4%), and mass migrations of climate refugees (74.8%). For Poland as a country, these threats were assessed as less important. The most significant problems for Poland were changes in weather conditions (85.4%), deterioration of water quality and access to water (81.5%), drying up of water reservoirs (81%), and the negative impact on sectors dependent on weather conditions (e.g., agriculture, energy, forestry, tourism) (80.6%). The least serious threat was considered the melting of glaciers, migrations of animals and plants, and climatic conflicts (54.9%, 54.9%, and 58.7% of respondents, respectively).

Opinions about the national climate policies in Poland

First of all, the respondents were asked for their opinions on the EU climate policy and Poland's commitments to it (Table 1). The results show that the respondents, although they are aware of and interested in the issue of climate change, are not fully aware of the EU climate policy and Poland's commitments. They are also not familiar with the main goal of the EU, achieving climate neutrality by 2050. However, a majority agree with the statement Poland should make the greatest effort to achieve all the goals of the EGD and face legal and political consequences in the event of failure to achieve climate policy goals. The result may imply that there is a basis for support for future restrictions in order to achieve climate goals and introduce enforcement mechanisms in case of non-compliance. This is relevant in the context of the critical assessment of Poland's achievement of climate targets (Figure 1 and 2).

Respondents considered the government's actions related to the reduction of CO_2 emissions and other greenhouse gases in the energy sector, agriculture, industry, and (to a lesser extent) transport, as well as reducing independence on fossil fuels, as the least sufficient. This may imply a negative assessment of the involvement in comprehensive activities aimed at counteracting climate change and reducing anthropogenic pressure on the climate. However, opinions on the implementation of Poland's climate policy were divided. Almost every third of respondents considered measures such as improving and promoting energy efficiency, developing a coherent national public transport system, or reducing the impact of transport on the climate as relatively developed.

Reduction of the emission of $\rm CO_2$ and other greenhouse gases in the energy sector	48,5%	30,1%	21,4%
Reduction of the emission of \mbox{CO}_2 and other greenhouse gases in the agricultural sector	48,1%	30,6%	21,4%
Reducing the use of fossil fuels in transport	47,1%	33,0%	19,9%
Reduction of the emission of \mbox{CO}_2 and other greenhouse gases in the industrial sector	47,1%	25,7%	27,2%
Construction of nuclear power plants as the basis for energy production in Poland	45,6%	28,2%	26,2%
Reducing the use of cars with internal combustion engines	45,6%	27,2%	27,2%
Reduction of the emission of \mbox{CO}_2 and other greenhouse gases in the transport sector	45,6%	24,3%	30,1%
Development of spatial planning limiting the human impact on the climate	42,7%	34,0%	23,3%
Decarbonization	42,2%	30,6%	27,2%
Development of energy production based on renewable resources	38,8%	38,3%	22,8%
Improving and promoting energy efficiency	37,4%	30,1%	32,5%
Development of a coherent national public transport system	36,4%	33,5%	30,1%
	0% 20%	40% 60%	80% 100%

■ 1 - Complete lack of and rather low level of government activity

■ 2 - Neither low nor high level of government activity

■ 3 - Medium to high level of government activity

Figure 1. Assessment of the level of advancement and effectiveness of the Polish government's climate policy

Source: authors' work based on survey research.

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erism	51,0%	0	23	,3%	25,7%	
vaste	50,0%		21,4	%	28,6%	
vices	48,1%		29	,1%	22,8%	
ic car	43,7%		31,69	%	24,8%	
ption	43,2%		27,7%		29,1%	
lustry	41,7%		29,6%		28,6%	
oland	40,8%		30,1%		29,1%	
iction	40,3%		33,5%		26,2%	
nable ment	36,9%		23,3%	39,	8%	
ociety	35,9%		24,8%	39,	3%	
sions	33,5%		29,6%	36	5,9%	
ent of urces	32,5%		35,9%		31,6%	
stems	32,5%	26	i,2%	41,3	3%	
s with ations	32,0%		36,9%		31,1%	
iaces, dings	30,1%	24,8	%	45,1%	%	
areas	29,1%	27,2	%	43,7	%	
nergy	27,7%	35	,0%	37	,4%	
apital	27,7%	27,7%	6	44,79	%	
itions	24,8%	26,7%		48,5%		
0	% 20%	40%	60%	6 80)%	100%

Reducing consumerisn

Reducing waste, such as food waste

Reducing excessive production of goods and service

Government subsidies for the purchase of an electric ca

Promotion of sustainable consumption

Modernization of the coal and lignite mining industry

Activities for the construction of nuclear power plants in Poland

Promotion of sustainable production

School education in the field of climate change and sustainable development

Educational campaigns addressed to the whole of society

Support for farms to reduce their greenhouse gas emissions

Modernization of the national power grid to support the development of renewable energy sources

Reducing the amount of waste and developing recycling systems

Change in the rules of energy billing in 2022 for households with photovoltaic installations

Government subsidies for households for the replacement of furnaces, thermal modernization of buildings

Development of green space in urban areas

Development of the national infrastructure for renewable energy

Protecting natural capita

Government subsidies for households for photovoltaic installations

1 - Completely ineffective and rather ineffective

2 - Neither ineffective nor effective

3 - Fairly effective and completely effective

Figure 2. Assessment of the effectiveness of the implementation of the Polish climate policy Source: authors' work based on survey research.

of the EGD

neutrality by EU countries by 2050

by 2050 are insufficient

able 1. Opinions regarding the European Union's climate policy				
	Opinion [%]			
Statement	Totally disagree and rather disagree	Neither agree nor disagree	Rather agree and totally agree	
I know the main assumptions of the European Green Deal (EGD)	40.3	23.3	36.4	
The EU should implement EGD in the field of climate policy	10.2	35.0	54.9	
Poland should do the greatest effort to achieve all the goals	9.2	36.4	54.4	

44.2

31.1

46.6

46.6

57.3

37.9

9.2

11.7

15.5

Table 1. Opinions	regarding	the European	Union's cl	imate policy
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Source: authors' work based on survey research.

in the event of failure to achieve climate policy goals Poland's climate targets in order to achieve the EGD goals

The main assumption of the EGD is to achieve climate

EU countries should face legal and political consequences

The majority of the survey participants considered the actions of the Polish government to be ineffective. It should be noted, however, that the areas receiving the most critique concerned those areas of action that require the involvement of many stakeholders from various levels - from the global to the local level, namely changes in the production and consumption model. This may indicate a serious problem with self-governing activities and the development of grassroots movements taking responsibility, as well as challenges in cooperation between different levels of administration.

From the initiatives where national decision-makers have the most influence, decarbonisation and energy transformation towards nuclear power plants were considered to be the least effective. It is also worth noting that almost every second respondent was relatively positive about the effectiveness of government subsidies for households for photovoltaic installations, replacement of furnaces, and thermal modernisation of buildings. More than two-fifths of the respondents considered the protection of natural capital and the development of green areas in urban areas to be fruitful activities.

Discussion

The pilot study shows that there is a higher level of climate change perception among the group of younger Poles researched compared to the "average" Polish citizen. This greater interest did not fully translate into everyday involvement in activities aimed at mitigation and adaptation. This is in line with the results of previous research (e.g. Ministry of Climate and Environment, 2022; European Union, 2021; UNDP, 2021; Ipsos et al., 2022). Moreover, their high self-esteem regarding climate knowledge did not fully reflect their actual knowledge about the importance of climate change, the EU climate policy, and the assumptions of the European Green Deal (EGD). This may result from decorative-ness, one of the disadvantages of survey research on ecological behaviour (Matel & Poskrobko, 2019), but also indicates the presence of an "attitude-behaviour gap" (Burgiel, 2020). This not only shows the complexity of the issue but also the need to take multi-directional actions to tackle it.

First of all, it is necessary to develop climate education (formal and informal, using various media (Lee et al., 2015)), as this creates a basis for solutions for climate change (Irwin, 2020; Filho & Hemstock, 2019) by increasing interest in the subject. Through a better level of knowledge about both the mechanisms of climate change and their effects, as well as actions to be taken in a multi-level governance context, the young generation may become more involved and become a powerful stakeholder influencing climate change policy at different administrative levels (Miller & Charlesworth, 2019; Di Gregorio et al., 2019; Chopra et al., 2019).

While education can be effective in changing attitudes toward climate change, it does not necessarily close the attitude-behavior gap (Blake, 1999). As Burgiel (2020) argues, plans regarding implementation and action play an important role in the process of transforming intention into actual behaviour. This process can be supported by facilitating individual change processes through the creation of opportunities, options, and solutions for more sustainable lifestyles (cf. Backhaus et al., 2012). This allows for reducing the "psychological distance" to the negative effects of climate change (Keller et al., 2022), which is expressed by the respondent's assessment of the threats to Poland as less significant than at a global level. In this respect, it may be necessary to increase awareness of systemic risks in the context of the interconnectedness at the global level, where the impact of any type of environmental threat, but also solutions to such threats, can lead to negative impacts all over the planet (e.g., Platje et al., 2022).

An implication of the research is that important feedback loops may exist between the activities of various stakeholders in the field of climate change mitigation, adaptation, and resilience. While bottom-up actions are of great importance, 63% of EU citizens (and 62% of Poles) see the national government as the most responsible actor for tackling climate change (European Union, 2021). Against this background, the pilot study allows for the following conclusions, which can be the basis for more in-depth research. Young Poles seem to notice and accept the responsibility of the Polish government in the context of implementing the EGD. The assessment of the level of advancement and effectiveness of Polish policy as insufficient shows some dissatisfaction with the achievement of climate goals. Therefore, representatives of the young generation are potential game changers and increase the priority of climate policy by way of grassroots initiatives (e.g. Youth Climate Strike, Extinction Rebellion). In other words, the development of civil society groups can play an important role in overcoming defragmentation (Di Gregorio et al., 2019). This may require the decentralisation of power from the central to the local level, a greater separation of power between the state and civil society, as well as greater involvement in international coordination mechanisms (Piattoni, 2009; Underdal, 2010). the barriers to climate policy resulting from both central leadership and local

Conclusions

The aim of this study was to identify the level of awareness and attitudes of young Poles towards climate change, as well as how they assess the progress and effectiveness of climate policy and related actions taken by the Polish government. The research conducted in 2022, despite the limitations indicated in the article resulting from the pilot nature of the research, allows the authors to indicate potential directions of action aimed at strengthening the Polish climate policy. The results show that the relatively high level of perception of climate change and related threats among young Poles does not necessarily translate into a willingness to explore knowledge in this area and get involved in climate change mitigation, adaptation, and resilience in the context of civil society and multi-level governance. For this reason, there is a need to both develop climate education from different angles and to create an appropriate "choice architecture" (Thaler, 2018; Sunstein & Thaler, 2017). This will make it possible to bridge the attitude-behaviour gap and shape the potential of the young generation as a force stimulating and strengthening local and national climate policies. The assessment of the advancement and effectiveness of the Polish climate policy by the respondents as poor confirms this need. This may imply dissatisfaction with the level of commitment to the European Green Deal. In the opinion of the authors, to strengthen this commitment, action in the political sphere should be taken, i.e. developing clear assumptions and goals of the Polish climate policy in accordance with the objectives of the EU policy. Based on this, various levels of administration (country, voivodship, powiat) should define goals and obligations and create an appropriate legal and organisational framework that allows for monitoring and enforcing progress climate policy and being integrated into appropriate operational objectives and activities in the economic, social, infrastructural and environmental spheres. From the point of view of a systemic approach, a transformation should take place at different levels of administration regarding climate policy goals. To achieve this, interdisciplinary and cross-sectoral action is necessary, combining the implementation of political, infrastructural, socio-economic, and environmental goals simultaneously.

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The contribution of the authors

Conception, M.P. and A.S.; literature review, M.P. and J.P.; acquisition of data, M.P. and A.S.; analysis and interpretation of data, M.P., J.P. and A.S.; recommendations, M.P., J.P. and A.S.

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POLSKA POLITYKA KLIMATYCZNA W OPINII MŁODYCH POLAKÓW – PILOTAŻOWE BADANIE ANKIETOWE

STRESZCZENIE: Jako kraj członkowski Unii Europejskiej, która w ramach strategii Europa 2020, a następnie Europejskiego Zielonego Ładu uczyniła przeciwdziałanie zmianie klimatu jednym z centralnych elementów swojej polityki zewnętrznej, Polska jest zobowiązana do rozwoju i wdrążania polityki klimatycznej w celu ograniczenia emisji gazów cieplarnianych i osiągnięcia neutralności klimatycznej do 2050 r. W kontekście niskiego priorytetu politycznego tego zobowiązania dla polskiego rządu, niniejszy artykuł ma na celu zidentyfikowanie poziomu świadomości oraz postaw młodych Polaków wobec zmian klimatu, a także rozpoznanie ich oceny polityki klimatycznej. Aby osiągnąć założony cel, wiosną 2022 r. w oparciu o nielosowy dobór próby przeprowadzono wśród młodych Polaków pilotażowe badania ankietowe za pomocą elektronicznego kwestionariusza udostępnionego przez media społecznościowe. Wyniki wykazały świadomość respondentów oraz względnie duże zainteresowanie zagrożeniami wynikającymi ze zmian klimatu, jednak zabrakło pogłębionej wiedzy na temat zmian klimatu, polityki klimatycznej oraz jej społeczno-ekonomicznej implikacji. Raczej negatywnie oceniono również zaawansowanie i skuteczność polityki klimatycznej w Polsce. W oparciu o wyniki badań zaproponowano kluczowe kierunki przyszłych działań, dzięki którym młode pokolenie może stać się siłą napędową dla tworzenia bardziej skutecznej polityki klimatycznej.

SŁOWA KLUCZOWE: percepcja klimatyczna, młode pokolenie, Polska, polityka klimatyczna, ekonomia ochrony środowiska