

BETWEEN ENVIRONMENTAL PROTECTION AND TECHNOLOGY: EUROPEANS' ECOLOGICAL ATTITUDES

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Abstract

The article presents the results of data analyses based on the European Values Study surveys (2017-2020) conducted in 34 European countries, in relation to attitudes towards environmental protection. It is underlined, that personal motivations influence also real possibilities of introducing environmental technologies. The article describes environmental attitudes in the perspective of almost the entire European continent, as well as the differences in these attitudes across individual countries and regions of Europe. It is noted that environmental attitudes vary significantly depending on how the problem is defined – in a macro-social vs. micro-social perspective. It has implications also for environmental engineering, since it is not enough to prepare a good technology, but it is also important to convince people to use it.

Keywords: *Societal priorities, European Union, Sustainable development, Sociological research, Technology, Environmental engineering*

Introduction

Protection of the environment has long history. Probably the first such act was established in 1122 B.C. in China. The aim was to protect forests and green areas. What is interesting, also the office of a forester was established [1]. So the lawmakers were aware, that establishing protected areas is not enough, there must be also someone to control it, whose aim is to prevent possible devastation.

But destruction of the environment has also long tradition. Let's mention smog – usually connected with the present pollutions of the atmosphere. The truth is however, that this phenomena is very old. In 1542, the Spanish sailor Juan Rodriguez Cabrillo noticed a layer of fog all around Los Angeles. It was smog, caused by the smoke coming from Indian campfires [1].

Traditional protection of nature based on conservation is still very important. Every country established many national parks and nature reserves. Also, UNESCO is promoting such protection by establishing World Biosphere Reserves. We have now 714 biosphere reserves in 129 countries (among them 21 transboundary sites) [2].

Unfortunately, conservational protection of nature is no longer enough. The ever-increasing technical skills of human race led to the situation where technology become the main factor responsible for destruction of the biosphere. We are using more and more tools and electronic devices, but their production is consuming resources and is polluting the environment.

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But technology may be used also for good. There are sciences, like environmental engineering, which deliver technologies helping in protection of the environment (like sanitation), as well as helping in prevention of the degradation of the environment (like renewable sources of energy).

But whether we are going to use such technologies is up to everyone of us. So, it is not enough to develop new, cleaner technologies. We must also convince people to use them. It is a matter of influencing human attitudes towards surrounding world. It is a key point in a shift from the world market by technological pollution of the environment to a sustainable, pollution free Earth.

Research on attitudes towards the natural environment and environmental protection has had a long tradition. In the social sciences, it has been primarily of interest to sociology, within which a distinct subdiscipline emerged – environmental sociology. This field of inquiry has focused on knowledge, opinions, as well as behaviours and declared behaviours in relation to environmental protection. The research in this area has been conducted both in a national and cross-national perspective, in relation to the entire societies and also to specific social categories. Even a partial overview of these studies would significantly exceed the scope of this article. Therefore, just a few examples will be given.

Differences in environmental attitudes were examined from an intercontinental and intercultural perspective [3]; changes in environmental attitudes in Central and Eastern Europe were studied over the years [4]; cross-national comparative studies were carried out on the rational choice of ecological behaviour [5]; the influence of cultural and socio-demographic characteristics on shaping environmental attitudes was examined in an international context [6]; the development of environmental concern was studied on the basis of cross-national databases [7]; cross-national studies on environmental behaviour were carried out in the context of social transformation and radical infrastructural changes in Central and Eastern Europe [8]; the development of environmental concern was analysed using long-term, cross-national comparative studies [9]. Based on comparative empirical studies, it was shown that there was a relationship between ecological attitudes and behaviour [10]; the relationship between environmental concern and social prosperity was explored in multi-national studies [11]; the relationship between economic factors, environmental values and attitudes was studied on the basis of the ISSP data [12].

As social attitudes are not constant and sometimes they may change quite radically, it is necessary to conduct research that would present the current situation in this area – in order to diagnose what is happening today, and also to describe the process of changes. Studies that are conducted on relatively large randomly selected samples that are highly representative seem to be the most valuable. It is also important to be able to generalise the conclusions from such studies onto large populations. This type of Europe-wide research is carried out, among others, as part of the European Values Study, which is a large-scale cross national program on basic human values. It provides insights into the ideas, beliefs, preferences, attitudes, values and opinions of citizens across Europe. The European Values Study explores the way Europeans think about life, family, work, religion, politics and society – including environmental protection. The EVS questionnaire includes 6 variables that indicate attitudes towards environmental protection.

The EVS surveys examined in the article were administered in the form of computer-assisted interview (CAPI) – 61.6%, paper-and-pencil interview (PAPI) – 23.8%, telephone interview (CATI) – 0.3%, self-administered questionnaire: web-based (CAWI) – 11%, and mail self-administered questionnaire – 3.3%.

National samples ranged from 1,003 to 3,362 adult respondents. The respondents were randomly selected regardless of their nationality or language. The most recent studies were conducted between 2017 and 2020 and covered 34 European countries. The entire sample from 2017-2020 included 56,491 respondents (Table 1).

The use of secondary data has its advantages and disadvantages. In the case of EVS data, the advantages include: sample size, randomness, as well as the fact that the data was collected in most European countries. The downside is that we are limited to the set of variables which

are contained in the EVS project. Having six “environmental” variables may not seem much. However, as they focus on the same problem, they allow a fairly good insight into it.

Table 1. Sample sizes in individual countries, taking into account survey year

		EVS survey year				Total
		2017	2018	2019	2020	
Albania	n		1435			1435
Azerbaijan	n		1800			1800
Austria	n		1644			1644
Armenia	n		1500			1500
Bosnia and Herzegovina	n			1724		1724
Bulgaria	n	1558				1558
Belarus	n		1548			1548
Croatia	n	1487				1487
Czech Republic	n	1811				1811
Denmark	n	3362				3362
Estonia	n		1304			1304
Finland	n	1199				1199
France	n		1870			1870
Georgia	n		2194			2194
Germany	n	2170				2170
Hungary	n		1514			1514
Iceland	n	1624				1624
Italy	n		2277			2277
Lithuania	n		1448			1448
Montenegro	n			1003		1003
Netherlands	n	2404				2404
Norway	n		1122			1122
Poland	n	1352				1352
Portugal	n				1215	1215
Romania	n		1613			1613
Russia	n	1825				1825
Serbia	n		1499			1499
Slovakia	n	1432				1432
Slovenia	n	1075				1075
Spain	n	1209				1209
Sweden	n	1194				1194
Switzerland	n	3174				3174
North Macedonia	n			1117		1117
Great Britain	n		1788			1788
Total	n	26876	24556	3844	1215	56491

The EVS dataset can be used and processed for academic purposes without any licence restrictions [13].

The questions concerning the environment were formulated as follows: (1) “Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?”; answers: “Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs” or “Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent”; (2) “How much do you agree or disagree with each of these statements?” (a) I would give part of my income if I were certain that the money would be used to prevent environmental pollution, (b) It is just too difficult for someone like me to do much about the environment, (c) There are more important things to do in life than protect the environment, (d) There is no point in doing what I can for the environment unless others do the same, (e) Many of the claims about environmental threats are exaggerated; answers: agree strongly, agree, neither agree nor disagree, disagree, disagree strongly.

Table 2. Protecting environment vs. economic growth by country

	Preference	
	Environment	Economic growth
Albania	55.4%	44.6%
Azerbaijan	56.6%	43.4%
Austria	64.6%	35.4%
Armenia	38.8%	61.2%
Bosnia and Herzegovina	38.1%	61.9%
Bulgaria	58.6%	41.4%
Belarus	47.8%	52.2%
Croatia	59.3%	40.7%
Czech Republic	62.2%	37.8%
Denmark	75.1%	24.9%
Estonia	71.1%	28.9%
Finland	74.1%	25.9%
France	60.6%	39.4%
Georgia	71.0%	29.0%
Germany	72.8%	27.2%
Hungary	68.9%	31.1%
Iceland	77.7%	22.3%
Italy	68.2%	31.8%
Lithuania	35.6%	64.4%
Montenegro	65.7%	34.3%
Netherlands	65.1%	34.9%
Norway	71.4%	28.6%
Poland	46.2%	53.8%
Portugal	72.4%	27.6%
Romania	49.6%	50.4%
Russia	51.4%	48.6%
Serbia	41.4%	58.6%
Slovakia	66.6%	33.4%
Slovenia	69.0%	31.0%
Spain	64.3%	35.7%
Sweden	88.8%	11.2%
Switzerland	76.9%	23.1%
North Macedonia	57.5%	42.5%
Great Britain	62.2%	37.8%
Total	62.7%	37.3%

Thus, we have several indicators of attitudes towards environmental protection, which should allow us to answer the following research questions: (1) what are the attitudes of Europeans towards environmental protection when macro-economic costs are taken into account? (2) what are the attitudes of Europeans towards environmental protection when this involves making personal financial sacrifices? (3) do Europeans take action to protect the environment or do they use the excuse of not being able to do much in this respect? (4) where do Europeans place environmental protection in the hierarchy of values; is it an important issue for them? (5) how willing are Europeans to take a personal effort to protect the environment, regardless of how much other people are involved? (6) how much are Europeans concerned about the state of the natural environment; and do they believe that it is a real problem?

All of these factors influence the decision about choice of technological solution on individual level.

Results

The inhabitants of most countries in the study place environmental protection over economic growth. This is most often the case in Sweden (88.8%), as well as in Iceland (77.7%), Switzerland (76.9%), Denmark (75.1%), Finland (74.1%), Germany (72.8%), Portugal (72.4%),

Norway (71.4%), Estonia (71.1%), and Georgia (71%). The countries where economic growth is considered to be more important than environmental protection include primarily: Lithuania (64.4%), Bosnia and Herzegovina (61.4%), Armenia (61.2%), Serbia (58.2%), as well as Poland (53.8%) and Belarus (52.2%) (Table 2).

In general, there is a correlation between the opinions presented in Table 2 and *per capita* GDP [14]. The higher the annual *per capita* GDP, the more frequently environmental protection is given priority over the economic growth. Obviously, there are some exceptions; e.g., residents of Georgia (with annual *per capita* GDP of USD 4,769) are more likely to give priority to environmental protection as compared with, for example, residents of Lithuania (annual *per capita* GDP of USD 19,456). Geographically speaking, pro-environmental attitudes are most often declared by Scandinavians, whereas residents of some Eastern European countries are the least likely to declare such attitudes.

Let us move on now to more detailed issues. In the survey, respondents were asked to what extent they agreed or disagreed with the following statement: "I would give part of my income if I were certain that the money would be used to prevent environmental pollution." The results are shown in Table 3.

Positive responses¹, which indicate the willingness to give part of one's income, to prevent environmental pollution, were most likely to be given in Georgia (87.8%), Albania (87.3%), North Macedonia (74.9%), as well as in Bosnia and Herzegovina (71%), Sweden (70.5%), Slovenia (65.3%), Croatia (64.6%), and Belarus (61.9%). Negative answers² were most common in Lithuania (45.4%), Portugal (45.3%), Slovakia (40.4%), Austria (38.7%), Spain (35.4%), the Netherlands (35.1%), Hungary (32.1%), and France (30.5%).

Residents of some countries of the former Eastern Bloc were the most willing to make financial sacrifices in order to prevent environmental pollution. This may be connected, at least in some cases, with worse environmental problems in these countries. However, when we compare the results in tables 2 and 3, some discrepancies can be noted. On the one hand, the inhabitants of most European countries prioritise environmental protection over economic growth; on the other hand, they are relatively often unwilling to give part of their income to prevent environmental pollution. This seems to be the most visible in the case of Bosnia and Herzegovina, and Belarus, but can be observed in many other countries to a greater or lesser extent.

As we can see, the situation is very divided. Willingness to donate your own money for protection of the environment is a crucial factor, since there are different technologies available. They vary not only in quality but also in their price. Convincing of people in countries less interested in environmental protection technologies is a priority now. But before we will take any action we should understand why these discrepancies take place. They may be related to three factors: (1) different ways in which the concept of 'environment' is understood, (2) general vs. specific nature of concepts such as 'environment' and 'preventing environmental pollution', (3) how these concepts are related to personal needs (do they concern 'everyone in general' or the respondent as such?).

Previous research shows that the term 'environment' evokes different associations. It is usually identified with pollution in towns and cities (22%) and climate change (19%); less frequently, it is associated with landscape and nature protection (approx. 12-13%), and very rarely, with using up natural resources (only 1%). What is of key importance for us is that the term 'environment' is understood differently in different countries [15]. In the studies discussed in the article, it is sometimes used in the most general sense ('environment'), while at other times, it is more specific ('preventing environmental pollution'), which may affect the respondents' opinions. It seems that a more specific concept has a stronger influence on the respondents than a somewhat enigmatic general term – especially as it is contrasted with the term 'economic growth', which is quite well understood and attractive.

¹ Combined responses: "strongly agree" and "agree."

² Combined responses: "strongly disagree" and "disagree."

Table 3. Willingness to give part of one's income to prevent environmental pollution by country

	Willingness to give part of one's income to prevent environmental pollution by country				
	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
Albania	46.8%	40.6%	6.4%	4.7%	1.6%
Azerbaijan	15.6%	34.9%	23.4%	19.8%	6.2%
Austria	9.7%	32.4%	19.2%	22.1%	16.5%
Armenia	13.4%	32.0%	23.6%	21.8%	9.2%
Bosnia and Herzegovina	32.3%	38.7%	17.8%	7.8%	3.5%
Bulgaria	15.0%	30.8%	31.5%	18.8%	4.0%
Belarus	23.6%	38.3%	18.5%	15.3%	4.4%
Croatia	22.1%	42.5%	20.8%	9.5%	5.2%
Czech Republic	8.8%	29.8%	28.5%	21.2%	11.8%
Denmark	19.2%	39.3%	27.4%	10.0%	4.1%
Estonia	7.4%	40.8%	22.5%	21.4%	7.9%
Finland	9.6%	31.3%	30.8%	18.5%	9.8%
France	14.2%	36.6%	18.7%	14.2%	16.3%
Georgia	43.9%	43.9%	5.7%	5.4%	1.1%
Germany	13.0%	42.8%	17.8%	16.7%	9.7%
Hungary	13.9%	27.6%	26.4%	19.3%	12.8%
Iceland	12.8%	36.7%	32.3%	12.2%	6.0%
Italy	12.4%	38.6%	25.2%	16.4%	7.5%
Lithuania	2.2%	18.3%	34.1%	33.0%	12.5%
Montenegro	19.4%	35.5%	36.2%	7.5%	1.4%
Netherlands	8.0%	29.3%	27.6%	20.7%	14.5%
Norway	16.6%	37.2%	16.1%	15.5%	14.7%
Poland	9.3%	36.7%	22.9%	23.0%	8.2%
Portugal	5.8%	30.6%	18.3%	33.0%	12.2%
Romania	18.8%	39.6%	21.6%	9.1%	10.9%
Russia	14.6%	29.5%	25.4%	20.5%	9.9%
Serbia	17.5%	37.3%	26.5%	14.1%	4.7%
Slovakia	4.7%	23.4%	31.5%	18.5%	21.9%
Slovenia	12.7%	52.6%	19.6%	12.1%	3.1%
Spain	10.4%	33.4%	20.8%	24.5%	10.9%
Sweden	24.0%	46.5%	19.9%	7.1%	2.5%
Switzerland	15.3%	40.9%	23.9%	13.9%	6.0%
North Macedonia	37.2%	37.7%	15.1%	6.6%	3.5%
Great Britain	11.2%	43.0%	25.5%	15.8%	4.5%
Total	16.6%	36.4%	23.0%	15.9%	8.1%

In this comparison, 'economic growth' seems to be closer to the respondents' personal experiences (higher income, better situation in the labour market, etc.) than the general term 'environment.' On the other hand, 'preventing environmental pollution' is closer to the respondents' everyday experiences (especially if they live in cities), not to mention the statement 'giving up part of your income.' This may explain some discrepancies between the results in tables 2 and 3. Obviously, these are just assumptions that require additional methodological research³.

Involvement in environmental problems was measured by means of the indicator included in the following "indirect" question: "It is just too difficult for someone like me to do much about the environment" (Table 4).

³ The analysis is limited to methodological interpretations. In order to explain the research results in individual countries, it would be necessary to refer to the state of their natural environment, preferably from a comparative perspective (both in relation to other countries and taking into account the time perspective). This would also require comparing the economic situation and the state of the environment – based on individual and subjective perceptions, as it is not sufficient to rely on objective indicators only. This is beyond the scope of the article.

Table 4. It is too difficult to do much about the environment by country

	It is too difficult to do much about the environment				
	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
Albania	6.6%	29.7%	16.3%	32.7%	14.7%
Azerbaijan	29.1%	34.4%	22.0%	12.6%	2.0%
Austria	5.3%	19.5%	17.5%	33.3%	24.4%
Armenia	11.9%	30.2%	26.1%	26.3%	5.5%
Bosnia and Herzegovina	13.0%	22.7%	26.6%	30.8%	6.9%
Bulgaria	8.8%	30.5%	25.2%	31.4%	4.2%
Belarus	12.7%	30.1%	21.0%	28.1%	8.2%
Croatia	8.8%	32.1%	19.1%	30.3%	9.8%
Czech Republic	6.6%	18.4%	21.4%	40.7%	12.9%
Denmark	6.9%	20.6%	19.7%	41.1%	11.6%
Estonia	4.0%	20.7%	16.8%	43.6%	14.9%
Finland	2.4%	13.3%	14.8%	48.1%	21.3%
France	10.0%	27.4%	14.7%	28.8%	19.1%
Georgia	14.4%	44.0%	9.4%	28.5%	3.6%
Germany	2.5%	16.8%	15.7%	49.1%	15.8%
Hungary	8.5%	23.3%	25.2%	30.1%	13.0%
Iceland	3.2%	13.2%	19.6%	46.6%	17.3%
Italy	4.5%	18.8%	19.9%	44.3%	12.5%
Lithuania	9.1%	35.6%	31.5%	19.3%	4.5%
Montenegro	10.8%	36.5%	26.1%	23.0%	3.7%
Netherlands	4.2%	15.3%	23.3%	43.4%	13.8%
Norway	5.4%	20.8%	9.7%	35.9%	28.2%
Poland	4.2%	22.6%	14.3%	47.3%	11.6%
Portugal	3.2%	33.8%	14.9%	37.5%	10.6%
Romania	13.6%	23.8%	26.5%	14.3%	21.8%
Russia	11.4%	27.1%	31.0%	24.8%	5.8%
Serbia	9.8%	29.2%	30.0%	23.9%	7.0%
Slovakia	8.9%	26.0%	31.0%	23.2%	10.9%
Slovenia	6.8%	33.6%	18.7%	37.3%	3.7%
Spain	4.3%	24.6%	20.9%	35.9%	14.3%
Sweden	3.0%	18.1%	17.5%	44.2%	17.2%
Switzerland	2.7%	11.9%	18.3%	45.0%	22.1%
North Macedonia	9.5%	25.6%	26.8%	25.6%	12.5%
Great Britain	3.6%	22.4%	19.8%	44.8%	9.4%
Total	7.9%	24.3%	20.8%	34.7%	12.4%

The way this statement was formulated has advantages in that it rationalises passive attitudes. This helps to avoid the influence of some imaginary pressure, which could in turn make the respondents try to present themselves in a better light. If the respondent negates the statement, it suggests that they take some actions for the environment, without going into details.

The responses⁴ that indicate taking up some actions for the environment are most often given by those living in Finland (69.5%), Switzerland (67.1%), Germany (64.9%), Iceland (64%) and Sweden (61.4%), as well as in Poland (58.9%), Estonia (58.5%), Austria (57.8%), the Netherlands (57.2%), North Macedonia (54.2%), Czech Republic (53.6%), and Denmark (52.8%). The view that it is too difficult to do something for the environment (lack of involvement), is most often expressed by residents of Azerbaijan (63.4%) and Georgia (58.4%), followed by those living in Montenegro (47.2%), Lithuania (44.8%), Belarus (42.8%), Croatia (40.9%), and Slovenia (40.4%) (Table 4).

⁴ Combined responses: “strongly disagree” and “disagree.”

As can be seen, lack of involvement in protecting the environment is most often shown by those living in some former Eastern Bloc countries, whereas inhabitants of Northern Europe (mainly Scandinavia) and Central Europe are more likely to adopt a proactive attitude.

Table 5. There are more important things to do than protect the environment by country

	There are more important things to do than protect the environment				
	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
Albania	11.5%	32.2%	21.8%	28.0%	6.5%
Azerbaijan	21.0%	28.7%	29.3%	16.2%	4.8%
Austria	3.3%	17.5%	28.0%	29.6%	21.6%
Armenia	22.3%	35.9%	24.6%	14.2%	3.0%
Bosnia and Herzegovina	13.7%	30.3%	33.2%	19.7%	3.2%
Bulgaria	7.5%	27.6%	35.9%	26.3%	2.7%
Belarus	9.5%	27.2%	25.8%	30.3%	7.2%
Croatia	11.0%	33.4%	24.5%	23.3%	7.8%
Czech Republic	11.0%	23.4%	25.4%	29.4%	10.8%
Denmark	3.7%	14.7%	28.2%	38.7%	14.7%
Estonia	4.5%	19.2%	21.2%	40.5%	14.6%
Finland	4.7%	19.8%	30.2%	34.7%	10.6%
France	4.2%	13.9%	14.8%	33.3%	33.7%
Georgia	12.0%	40.8%	15.7%	27.8%	3.6%
Germany	2.2%	12.7%	19.7%	41.3%	24.0%
Hungary	5.2%	23.2%	37.2%	26.3%	8.1%
Iceland	2.7%	16.9%	29.8%	37.7%	12.9%
Italy	2.7%	12.7%	22.1%	44.7%	17.9%
Lithuania	10.0%	32.8%	36.6%	17.0%	3.6%
Montenegro	7.7%	28.9%	39.3%	19.4%	4.7%
Netherlands	4.0%	20.2%	34.5%	32.5%	8.8%
Norway	10.5%	24.1%	17.4%	29.9%	18.1%
Poland	5.8%	29.3%	23.8%	33.5%	7.7%
Portugal	1.1%	19.7%	26.1%	40.7%	12.4%
Romania	8.3%	23.3%	32.6%	19.2%	16.6%
Russia	9.6%	24.3%	39.3%	22.2%	4.5%
Serbia	9.7%	26.5%	39.6%	17.8%	6.4%
Slovakia	6.5%	21.3%	40.4%	21.0%	10.8%
Slovenia	4.3%	29.2%	30.8%	30.2%	5.5%
Spain	3.2%	21.7%	25.8%	33.7%	15.6%
Sweden	2.0%	12.8%	22.4%	44.3%	18.4%
Switzerland	2.1%	10.8%	21.9%	42.2%	23.1%
North Macedonia	10.4%	22.6%	29.6%	24.5%	12.9%
Great Britain	2.1%	14.0%	20.5%	45.1%	18.3%
Total	7.1%	22.4%	27.4%	30.8%	12.3%

Another issue concerns the priority given to environmental protection in the value system. This was measured by asking the respondents to react to the following statement: "There are more important things to do in life than protect the environment," using the standard grading scale.

Negative responses indicate that environmental issues are given priority in the value system. Such responses were most common in France (76%), Germany and Switzerland (65.3% each), Sweden (62.7%), and Italy (62.6%), as well as in Estonia (55.1%), Portugal (53.1%), Austria (51.2%), and Iceland (50.6%). On the other hand, the view that there were more important things to do in life than protect the environment, was most commonly accepted in Armenia (58.2%), Georgia (52.8%), Azerbaijan (49.7%), Croatia (44.3%), Bosnia and Herzegovina (44%), and Lithuania (42.8%). A high priority given to environmental issues is characteristic mainly of some Western, Northern and Central European countries, whereas inhabitants of the former Eastern Bloc do not consider these issues to be that important.

Table 6. There is no point in doing what I can for the environment unless others do the same by country

	There is no point in doing what I can for the environment unless others do the same				
	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
Albania	1.5%	12.0%	12.1%	37.0%	37.4%
Azerbaijan	24.5%	40.2%	15.3%	13.3%	6.7%
Austria	5.1%	18.5%	16.9%	29.8%	29.7%
Armenia	8.4%	29.2%	30.8%	25.1%	6.5%
Bosnia and Herzegovina	18.2%	30.1%	22.3%	25.3%	4.1%
Bulgaria	11.2%	26.2%	20.8%	34.9%	6.9%
Belarus	11.2%	22.1%	18.2%	35.0%	13.6%
Croatia	6.9%	22.4%	12.9%	40.6%	17.2%
Czech Republic	7.3%	22.1%	17.5%	37.5%	15.6%
Denmark	6.9%	16.5%	12.3%	43.3%	21.0%
Estonia	4.0%	17.4%	12.8%	49.3%	16.5%
Finland	2.0%	11.5%	11.3%	51.7%	23.4%
France	15.6%	24.9%	8.6%	24.2%	26.6%
Georgia	12.3%	30.6%	9.1%	41.0%	7.1%
Germany	5.7%	18.1%	8.6%	45.7%	21.8%
Hungary	4.9%	10.6%	18.0%	39.9%	26.5%
Iceland	4.0%	20.4%	13.4%	46.3%	16.0%
Italy	4.6%	18.5%	16.3%	43.2%	17.2%
Lithuania	4.7%	27.6%	32.2%	28.9%	6.5%
Montenegro	10.3%	29.7%	25.6%	26.7%	7.7%
Netherlands	5.6%	18.4%	18.6%	43.7%	13.7%
Norway	6.2%	15.1%	6.1%	30.6%	42.1%
Poland	6.4%	25.4%	13.0%	43.2%	12.1%
Portugal	5.5%	32.6%	13.3%	36.1%	12.4%
Romania	12.0%	25.3%	26.4%	17.0%	19.2%
Russia	8.2%	19.8%	30.7%	33.3%	8.1%
Serbia	16.3%	28.1%	26.5%	22.5%	6.6%
Slovakia	5.7%	14.1%	26.0%	29.1%	25.1%
Slovenia	3.3%	17.0%	13.1%	52.2%	14.5%
Spain	2.3%	17.1%	16.4%	39.8%	24.5%
Sweden	3.0%	11.6%	9.0%	47.0%	29.4%
Switzerland	5.0%	16.0%	13.0%	42.1%	24.0%
North Macedonia	10.7%	17.7%	20.9%	30.6%	20.2%
Great Britain	5.2%	31.3%	12.6%	40.4%	10.4%
Total	7.9%	21.6%	16.7%	36.5%	17.3%

Taking into account that in Eastern countries state of the environment is usually worse, and more money should be spent for technologies connected with protection of the environment, such attitude is a real obstacle in possibilities of making the situation better.

Another crucial issue was the willingness to make a personal effort to protect the environment, regardless of how much other people were involved (Table 6). This willingness was indicated by responding to the following statement: “There is no point in doing what I can for the environment unless others do the same.” The combined negative responses (“disagree” and “strongly disagree”) can be treated as the willingness to make an effort to protect the environment. Such willingness was most often declared in Sweden (76.4%), Finland (75.1%), Albania (74.5%), Norway (72.7%), Germany (67.6%), Slovenia (66.7%), Hungary (66.4%), and relatively frequently in other countries, as well. On the other hand, the attitude that involvement of more people was necessary to protect the environment and that there was no point in an individual taking some actions, was most often expressed by those living in Azerbaijan (64.7%), Bosnia and Herzegovina (48.3%), Serbia (44.4%), and Georgia (42.9%).

The attitude towards environmental protection was also measured by the response to the statement: “Many of the claims about environmental threats are exaggerated” (Table 7).

Table 7. Many of the claims about environmental threats are exaggerated by country

	Many of the claims about environmental threats are exaggerated				
	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
Albania	3.8%	23.5%	15.8%	32.2%	24.7%
Azerbaijan	11.4%	15.1%	33.2%	27.0%	13.3%
Austria	3.0%	16.8%	20.0%	30.5%	29.7%
Armenia	14.9%	36.7%	26.4%	17.6%	4.4%
Bosnia and Herzegovina	9.5%	24.4%	27.5%	31.4%	7.3%
Bulgaria	4.8%	20.2%	31.8%	34.3%	8.9%
Belarus	6.1%	20.2%	23.5%	36.7%	13.5%
Croatia	5.2%	27.1%	19.5%	34.2%	14.1%
Czech Republic	7.9%	25.5%	26.0%	31.5%	9.0%
Denmark	2.9%	12.9%	22.8%	39.0%	22.4%
Estonia	5.0%	23.3%	19.9%	39.8%	12.1%
Finland	2.8%	11.7%	18.1%	46.4%	21.0%
France	7.2%	21.9%	14.9%	26.6%	29.4%
Georgia	7.5%	29.8%	10.0%	45.0%	7.6%
Germany	2.2%	12.3%	11.7%	44.7%	29.1%
Hungary	4.1%	18.4%	27.0%	34.1%	16.3%
Iceland	1.8%	11.9%	21.7%	40.8%	23.8%
Italy	2.7%	18.4%	22.1%	37.3%	19.5%
Lithuania	5.0%	28.0%	36.4%	24.8%	5.8%
Montenegro	7.8%	19.7%	36.4%	27.9%	8.1%
Netherlands	3.0%	13.0%	21.9%	42.5%	19.6%
Norway	6.2%	24.0%	14.3%	26.6%	28.9%
Poland	6.3%	36.5%	19.1%	31.4%	6.7%
Portugal	0.9%	22.8%	19.9%	38.2%	18.2%
Romania	8.5%	21.4%	28.6%	18.5%	23.0%
Russia	4.9%	21.0%	34.2%	30.8%	9.0%
Serbia	6.0%	21.2%	35.1%	27.6%	10.1%
Slovakia	5.3%	17.2%	31.9%	25.7%	20.0%
Slovenia	2.1%	25.5%	20.7%	43.5%	8.2%
Spain	2.8%	15.8%	21.2%	33.6%	26.7%
Sweden	1.6%	9.0%	16.4%	42.1%	30.9%
Switzerland	2.6%	12.6%	15.2%	43.2%	26.4%
North Macedonia	9.9%	19.2%	26.7%	25.8%	18.5%
Great Britain	2.4%	15.4%	23.8%	42.5%	15.9%
Total	5.0%	19.7%	22.8%	34.8%	17.7%

It is known, that many global companies are promoting scientific research, which aim is to deny, distort or dismiss the scientific evidence that the products of different companies have bad influence on the environment or people's health. First such strategy was introduced in the 1950s in relation to tobacco industry and the basic aim was to deny that smoking may be responsible for developing lung cancer [16]. Now we can observe the same strategy in relation to distort global warming and climate change, sponsored by oil companies. Europe is also the target of such false information strategies. What is the Europeans' response?

The combined negative responses ("disagree" and "strongly disagree") can be treated as an indicator of concern about the state of the environment, and the belief that it is a real, and not imaginary problem. Such views are most often expressed by respondents in Germany (73.8%), Switzerland (69.6%), Finland (67.4%), Iceland (64.6%), the Netherlands (62%), Denmark (61.3%), Spain (60.2%), and Austria (60.1%), but also in many other countries. On the other hand, the inhabitants of Armenia (51.6%), but also of Poland (42.8%) are most likely to express the view that many claims about environmental threats are exaggerated. This opinion is also quite common in Georgia (37.3%), Bosnia and Herzegovina (33.9%), Czech Republic (33.4%), and Croatia (32.2%).

Conclusions

Sociological research on attitudes of Europeans towards the environment is a powerful tool which may help in better understanding the behaviour of societies in different countries. Indicating which countries are less interested (and why) in environmental protection may help in developing and introducing new strategies promoting protection of the environment.

It is also very important from the technological point of view, especially on the side of environmental engineering. Even best environmental technology will not fulfil its aim, when no one will want to buy and use it. Results of sociological research may help to sell. But what is the situation now?

If Europe (represented in the survey by 34 countries) is treated as a whole, the following conclusions can be drawn: (1) the majority of Europeans (62.7%) show pro-environmental attitudes, giving priority to environmental protection over economic growth, (2) a small majority of Europeans (53%) show pro-environmental attitudes, expressed in their willingness to make financial sacrifices to prevent environmental pollution, (3) slightly less than half of Europeans (47.1%) take or are ready to take action for the environment, (4) less than half (43.1%) believe that protecting the environment is important – they do not agree with the view that there are more important things to do in life than protect the environment, (5) more than half of Europeans (53.8%) are willing to take a personal effort to protect the environment, regardless of how much others are involved, (6) more than half (52.5%) are concerned about the environment and do not believe that the claims made about environmental threats are exaggerated.

What is noteworthy is a discrepancy between the declarations that environmental protection should be given priority over economic growth, and other more specific declarations and opinions. This problem has been partly discussed earlier in the article. In general, a significant difference can be observed between the frequency of pro-environmental attitudes manifested in macro-social categories and in micro-social categories (in relation to situations that are much closer to the respondents' personal experiences). Two-thirds of Europeans choose protection of the environment over economic growth; however, only approximately half of them (43-53%) declare pro-environmental attitudes when it comes to a more personal dimension. Given the enormity of environmental problems, this is not many. On the other hand, the state of the environment may not seem to be as disturbing when it is assessed from a relatively close and familiar European perspective, as compared with a global perspective.

Moreover, attitudes to environmental protection vary among inhabitants of particular countries. These differences may result from different economic situation and standard of living, on the one hand, and the sensitivity to environmental issues in a given country, on the other hand. Broadly speaking, we can observe the north-west-east divide, with people living in Scandinavian countries expressing pro-environmental attitudes frequently and strongly, as contrasted with sometimes very different attitudes in the Eastern and South-Eastern Europe.

Presented research is general optimistic, but more must be done. Now the most important challenge connected with protection of environment and technology is a shift of energy sector from fossil fuels to renewable sources of energy. Renewables should be well promoted, effective and affordable. As for now, in Europe such sources received huge support. The introduced policy demands, that 20% of electricity should be obtained from renewable sources of energy to the year 2020, and 27% to the year 2030, but the region still may achieve more. As for now, Europe is the world's leader in production of bioenergy (biomass, biogas) in case of other renewables the first place is for Asia (Irena, 2020). The competition is however not over – for a common sustainable future. Sociological research may be of great help in achieving this goal.

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