

ORIGINAL PAPER

Citation: Kułyk, P., Michałowska, M., & Patelska, M. (2017). Consumer attitudes in the light of the concept of sustainable consumption in Lubuskie voivodeship against the background of trends in consumption in Poland. *Oeconomia Copernicana*, 8(2), 181–197. doi: 10.24136/oc.v8i2.12

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Received: 12 December 2016; Revised: 27 March 2017; Accepted: 8 April 2017

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Consumer attitudes in the light of the concept of sustainable consumption in Lubuskie voivodeship against the background of trends in consumption in Poland

JEL Classification: *Q01; D11; D12*

Keywords: *consumers' behaviours; sustainable consumption; trends in consumption; Lubuskie voivodeship, Poland*

Abstract

Research background: The article has addressed the issue of sustainable consumption, which is becoming increasingly important on account of the adverse social and environmental consequences caused by the development and growth of societies. Sustainable consumption encourages to make rational choices and take responsibility for one's choices. Consumers take a number of decisions every day that affect not only them, but also cause externalities. There are many studies that indicate that consumers when buying goods and services are driven by environmental and ethical considerations.

Purpose of the article: Changes occurring in the environment affect consumer behavior, leading to multiplicity of attitudes and changes in consumption trends. The article has shown

consumer behavior in line with the concept of sustainable development against the background of trends in consumption in Poland.

Methods: The basis for the discussion in the article will be: literature studies, available empirical studies, and our own results of the survey among respondents in Lubuskie voivodeship. Surveys using questionnaires were directed at 541 respondents. The number of correctly completed questionnaires was 500, and the figures contained in them were subjected to further analysis.

Findings & Value added: Respondents in their purchasing choices are not guided by the influence of the consumption on the natural environment. However, in their behaviors we can notice some environmental measures, which stem from different reasons, depending on the socio-economic conditions.

Introduction

Consumption is an inseparable part of our lives. Products which we consume have a greater or lesser impact on the natural environment. Rationally, from the perspective of permanent sustainability, the appropriate approach to purchase products can reduce the progressive degradation of the natural environment. Reducing the negative impact of human activity on the environment is possible through the implementation of the principles of sustainable consumption. A higher level of environmental awareness contributes to taking environmental actions, and thus reducing the negative impact on the natural environment resulting from unbalanced (excessive) consumption. On the one hand, consumption is regarded as a factor of socio-economic development, on the other, the way we consume has more or less impact on the environment. If consumption is done in an excessive, unbalanced way, in an extreme case at negative marginal utility, it contributes to a greater extent to the environmental problems, such as, pollution and global warming (the greenhouse effect). Sustainable consumption refers to consumer goods and services and the use and disposal of them. It relates to consumer behavior and lifestyles. Cz. Bywalec is of the opinion that „in stopping negative processes that degrade the natural environment and deteriorate the quality of life especially significant are the changes in the system of values and consumer behavior of people” (Bywalec, 2010, p. 196). It is therefore important to implement the principles of sustainable consumption.

Sustainable consumption means the method of using the goods and services, which corresponds to meeting the needs of bringing a better quality of life, but on two conditions completed at the same time (Jastrzębska-Smolaga, 2000, p. 73):

- the realisation of these objectives will be accompanied simultaneously by dramatical reduction of the consumption of natural resources and en-

ergy, reduction of waste emissions and pollution of the environment and stopping the use of toxic materials,

- obtaining a better quality of life by the present generation will not become an obstacle to satisfying realisation of the needs of future generations.

Sustainable consumption plays an important role in minimizing the negative environmental impact resulting from the processes of mass unsustainable consumption. Striving to achieve sustainable development depends on both the behavior of consumers as well as producers. Sustainable consumption is based on the assumption that the quality of life and satisfaction with their own lives are dependent on necessary consumption (Zaremba-Warnke, 2009, p. 34). From a certain threshold of prosperity further consumption growth does not translate into an improvement in quality of life any more (Zaremba-Warnke, 2009, p. 34). It also does not increase the level of total utility microeconomically.

The aim of the article is to show the consumer behavior in line with the concept of sustainable development against the background of trends in consumption in Poland. Furthermore, the objective is to get to know the opinion of the respondents concerning the assessment of the state of the environment where they live, as well as measures to improve the environment in Lubuskie voivodeship. An attempt has also been made to identify the activities related to the implementation of environmental solutions by households in relation to sustainable development and the factors motivating them to this type of solutions.

Considerations are based on studies of literature, the available empirical studies and own results of the survey among respondents in Lubuskie voivodeship.

Consumer behavior towards sustainable consumption

Recently, a lot of changes and new trends in consumer behavior have been seen. In view of the growing ecological awareness an interest in ecoconsumption is also growing (Woś *et al.*, 2004, p. 116).

Ecoconsumption manifests itself in economical, i.e. rational use of consumer goods, buying and consuming the so-called environmental goods (mostly food) obtained by natural methods, the pursuit of individuals to minimize the adverse effects resulting from their consumption through rationalization and exploitation of factors of production (resources) and reducing the generation of production and post-consumer waste (Bywalec, 2007, pp. 137–141).

Ecoconsumption results not only out of concern for the environment, but also health and lives of the loved ones and future generations. In the light of these considerations, the question arises: what are the conditions for implementation of sustainable consumption?

G. Antonides and W. F. van Raaij noted that, in general, consumers do not buy products and do not use the services for the benefit of the environment. Although the authors emphasize that certain special products, for example, containers for compost or catalysts are bought solely because of their ecological function, however, when making a buying decision usually consumers treat environmental considerations as an additional feature of the product (Antonides & Van Raaij, 2003, p. 511). However, changes in consumer awareness and economic and social incentives may change this attitude over time (Mannion, 2014, p. 10).

According to G. Antonides and W. F. van Raaij the purchasing process usually has a rational course, ie. first, consumers are looking for information and then form their opinions and then make a purchase (Antonides & Van Raaij, 2003, p. 511). However, it happens that consumers do not always make decisions rationally and thoughtfully. According to the micro-economic approach, a rationally behaving consumer bases its functioning on the following assumptions (Becla *et al.*, 2001, p. 89):

- there is a defined objective function which determines the behavior of the consumer, this is the total utility maximization,
- the consumer has an explicitly ordered scale of consumer preferences,
- in making purchasing choices, the consumer is guided by their preferences scale, and also takes into account their income abilities and price limits.

The consumer, by behaving rationally, seeks to optimize decisions. Thus, we can assume that rational behavior is an internally consistent, logical procedure aimed at maximizing the satisfaction of the individual. However, as noted by L. Rudnicki, the psychological research shows that (Rudnicki, 2012, pp. 13–14):

- people do a lot of things that do not bring them benefits;
- rational conduct is directly oriented and only to the benefit of the individual, and yet they are not guided in life only by selfishness;
- people's conduct is not affected only by economic incentives, but also, and perhaps primarily, by influences of psychological prejudices, habits or impulses;
- there is not enough information to make a fully rational decision;
- consumers do not necessarily maximize their satisfaction.

Therefore, a microeconomic approach consistent with marginal calculation needs to be complemented with a wider range of social, psychological and legal factors and in the assessment move to the behavioral approach.

Summarizing the above considerations, it can be said that consumers do not always make decisions rationally and thoughtfully. Consumer behavior varies greatly and depends on various factors affecting the process of purchasing goods and services.

They are also subject to shaping up as a result of the information and socio-economic policy. The use of different stimuli can change consumer preferences.

According to the report of the Institute for Sustainable Development entitled: Environmental awareness of Poles — sustainable development (Bołtromiuk, 2009, p. 4), consumers are guided primarily by the price of purchased products for both food (Figure 1) and industrial products (Figure 2). Therefore, what dominates are the typical microeconomic stimuli conditioned by market structure. This can reduce the importance of sustainable consumption because of the cost of current consumption. Thus, ignoring the intertemporal choice for the consumer in the current period in accordance with the marginal calculation, it will be preferable to refer to lower economic costs, often associated with products negatively affecting the environment. It is a noteworthy fact that a larger percentage of respondents draw attention to environmental selection criteria for the purchase of industrial products than in the case of purchasing food products. However, in both cases, environmental protection criteria are important for a small percentage of the respondents.

The analysis of the data contained in the report of the Institute for Sustainable Development also shows that consumer behavior promoting environmental protection amounts to systematic use of reusable bags while shopping (the percentage of indications for more than 60%) (Bołtromiuk, 2009, p. 3). One may also notice, according to the data contained in the report, that environmental protection is often due to economic reasons, because it is an incentive for consumers to modify their behavior. According to the report, even the introduction of a small payment for plastic bags encouraged consumers to use reusable bags. A similar relationship can be seen in the event of reduction of the consumption of electricity, water, or waste segregation, since these activities are not largely dictated by the environment protection but the result of the economic situation. Among consumers, reluctance is visible to reduce car use in favour of public transport or bike. In contrast, only a small percentage of respondents regularly buy organic food (the percentage of indications is more than 5%).

Research on consumer behavior has shown that consumers today are guided by more ethical and environmental issues in the choice of purchased goods and services (Gutkowska & Batóg, 2016, p. 28). Ethical consumption means buying products that have been produced with respect for fundamental human rights and the environment (Gutkowska & Batóg, 2016, p. 28). It is also worth noting that the issue of building a single market for environmentally friendly products has been the subject of public opinion surveys in 28 countries of the European Union on behalf of the European Commission in 2012 (*Flash Eurobarometr...*, 2012, p. 1). The results show that consumers are convinced of the rightness of the use of environment-friendly products, that with these products the state of the environment can be improved. Respondents were also convinced that buying environmentally friendly products will be conducive to positive patterns to follow (Table 1). This is, however, in conflict with previously presented results of studies, which showed low significance of environmental conditions on consumer purchasing behavior. Thus a kind of gap arises between the aspirations of consumers and their actual choices on the market.

As the data in Table 1 shows, we do not see a significant difference in the responses regarding the reasons to buy environmentally friendly products among the inhabitants of the European Union and Poland in the case of sense of fairness for the use of environmentally friendly products. 95% of EU citizens are convinced of this, as well as 98% of Poles. 91% of EU citizens believe that buying environmentally friendly products can really change the state of the environment. Such a view is also shared by 95% of Poles, an increase of four percentage points higher than among the EU population. 89% of the EU also said that buying environmentally friendly products can really change the state of the environment, as well as 92% of Poles. 74% of the EU population and 76% of Poles said that environmentally friendly products are as effective as conventional products. Other reasons to buy products friendly to the environment, in which we can see the smallest differences in votes in favour of the validity of the given statements relate to: availability in the store and easiness to differentiate environmentally friendly products from other products, accordingly 54% and 52% of the EU population, 51% and 52% of Poles. The differences (between 8% and 9%) among the inhabitants of the EU and Poland can be seen in statements like „if I use environmentally friendly products, my friends or family will be of the opinion that this is a good thing” and „products friendly to the environment are good value for money”.

The research by S. Bamberg and G. Mösera (2007, pp. 14–25) and J. M. Hines *et al.* (1986/87, pp. 1–8) on the ecological behavior of consumers showed that the ecological consumer behavior is determined by internal

factors, and is manifested to the greatest extent by young people, as well as people with higher education and higher income.

The report on the study of consciousness and behavior of ecologic Polish population conducted in 2014 by TNS Poland for the Ministry of Environment shows that, on the one hand, consumers are confident about the individual responsibility for the environment, and on the other hand, the popularity of consumer behavior supporting environmental protection is still limited (*Study environmental awareness...* 2014, p. 10).

Figure 3 shows the biggest environmental problems in Poland. The respondents participating in the survey were asked to indicate the three most important issues in the area of the environment.

The analysis of the results of the research carried out in relation to the environment shows that the waste was recognized as the biggest obstacle by respondents (45%), followed by air pollution (39%), and the third, water pollution (35%). These factors are of particular importance to the relationship between the structure of consumption and its impact on the environment. The subjects pay attention to a lesser degree to the problems relating to man-made disasters, depletion of natural resources, the disappearance of animal and plant species, an increase in noise level and low water resources.

Materials and methods of research and the characteristics of the research sample

Empirical research using the method of questionnaires were conducted from May to September 2016 among the inhabitants of the Lubuskie voivodeship. The selection of respondents was random using the method of layer selection. In the research proceedings a total of 541 questionnaires were collected. Including the correctly filled amounted to 500, and the figures contained in these questionnaires were subjected to further analysis. The questions contained in the questionnaire relate to, among others, assessment of the state of the environment in the place of residence of the respondents, measures to improve the environment in the Lubuskie voivodeship and the implementation of environmentally friendly solutions by households with regard to the issue of sustainable development and identification of the factors motivating them to this type of solutions. The characteristics of the study sample are presented in Table 2.

In the group of 500 respondents about 64% were women, and more than 36% men. The largest percentage of respondents (30%) declared a monthly income attributable to an average of 1 person in the household within the

range of 500–1000 zł, while the lowest in the range of 3001–3500 zł (over 4%). About 9% of the respondents indicated the average monthly income attributable to one person in the range from 2001 to 2500 zł, and more than 24% between 1001 to 1500 zł. Every fourth respondent indicated income falling within the range 1501–2500 zł for 1 person, while every seventeenth to the range of less than 500 zł. Of the 500 respondents over 47% were residents of the city, and the rest inhabited villages. Considering education, more than half of the respondents (52%) declared higher education, more than 45% — secondary education, and the rest — vocational education (about 3%).

Analysis of the results of the research

The state of the environment is affected by everyday consumer behavior. It is necessary to get to know the opinion about the assessment of the overall state of the environment in the place of residence of the respondents and about the actions conducive to its improvement, as well as to identify the key factors that influence consumers to make implementation of environmentally friendly solutions towards sustainable consumption.

Respondents' opinions regarding the assessment of the state of the environment at their place of residence are shown in Figure 4.

According to data contained in the figure, more than half of the respondents (about 57%) assess the state of the environment at their place of residence as good. The percentage of people indicating the average state of local environment was about 27%. 11% of respondents perceive the environment as bad, and 6% did not have their own opinion on the subject. This is a social assessment. However, it is a basis to purchasing decisions. Such a high evaluation of the environment may to some extent explain the lesser importance of environmental conditions on the purchasing decisions identified in previous studies. Despite this positive assessment of the surrounding environment, respondents see the need for a wide range of measures to improve it (Table 3).

Among the activities that should be pursued to improve the environment in the Lubuskie voivodeship, the most important were those associated with support for greater use of green energy projects (biofuels, solar, wind energy, etc.), secondly, those that lay the foundation for the modern municipal waste management, providing an increase in the recovery of waste, and thirdly, environmental education (Table 3).

Other proposals for action that should be pursued to improve the environment in the Lubuskie voivodeship were, e.g.:

- construction and modernization of the sanitary sewage system (number of responses — 283);
- introduction to all residents of the need to segregate waste (number of responses — 249);
- conversion of existing heating systems in public buildings to more environmentally friendly, in particular the reduction of low emission (number of responses — 238).

It is worth noting that it may appear surprising that environmental education ranks third among the activities, which the respondents think should be pursued to improve the environment in the Lubuskie voivodeship. An important task of environmental education is to gain environmental knowledge, but above all, a change of consumer behavior, their lifestyles. Generally speaking, it can be stated that the respondents see the need for environmental education and the impact of their and others' daily activities on the natural environment. Thus, they are not indifferent to the problems of ecological threat.

Among the activities for sustainable development we can point to, *inter alia*: conserving energy and water, waste segregation, the choice of packaging least harmful to the environment, the use of reusable bags. The table shows the actions that are implemented by the respondents in favor of sustainable development, which is inseparable from sustainable consumption (Table 4).

This stimulates a change in the structure of consumption in terms of energy, the composition of the products, their packaging and technologies used in their production. Some of these activities mean the need to increase current costs for consumers which contributes to the reduction of social and environmental costs, both current and future.

The study shows that more than 79% of respondents when making purchases use reusable bags, and more than 68% segregate waste. Almost every second equips their houses/homes in energy-efficient lighting, and more than 60% buy organic food products. Almost every third person declares to use less water. More than 33% turn off phone chargers, computers and other equipment when not in use.

Among the 500 people participating in the study, 302 people pledged to purchase organic food, while 198 respondents, *i.e.* approx. 40% have not purchased organic food, including 119 women (over 60%) and 79 men (40%). In the context of the issue of organic foods taking into the consideration the structure of the subjects according to the demographic and economic characteristics it is worth answering the question: who are the buyers of organic products? As can be seen from the survey, in the group of people who buy organic food most of them are of higher education (about 68%).

The percentage of respondents with secondary education accounted for more than 32%. In the tested group of 302 respondents over 66% were women, and approximately 34% men. The largest percentage of respondents (40%) declared monthly income attributable to an average of 1 person in the household between 1501 to 2000 zł. The smallest — below 500 zł (about 1%). Over 22% of respondents indicated the average monthly income attributable to one person in the range from 1001 to 1500 zł, more than 16% in the range of 500–1000 zł. Every seventh respondent pointed to income falling within the range 2001–2500 zł for 1 person, and every fourteenth the range 3001–3500 zł. Of the 302 respondents, over 63% were residents of the city, and the remaining inhabited villages.

Among the proposals to promote the idea of sustainable consumption, the respondents indicated e.g. the need to inform about the problems resulting from unsustainable consumption in the mass media, illustrate the scale of the problem with concrete data, numerical values, and focus on demonstrating the benefits of applying the principles of sustainable consumption.

Another factor of significant importance are the purchase reasons for the choice of implementation of environmental solutions by households (Table 5).

Analyzing the motives of the implementation of environmental solutions by households it can be seen that more than 84% implement them due to economic factors. Almost every third person pointed to environmental concerns, while one in four take such action under the influence of others. In contrast, various types of environmental campaigns are not a key argument for the implementation of environmental behaviour. Only a small percentage of people (9%) indicated that under the influence of campaigns they show concern for the environment. Thus, this indicates the importance of incentives of an economic nature on the shaping of purchasing attitudes of individual consumers in reaching sustainable consumption. This is consistent with the initial test results indicating, on the one hand, the interest in factors, and on the other, the dominance of the microeconomic pricing mechanism conditioned by price-profitable factors. At the same time, it points to the importance of conscious economic policy operating with economic incentives which contribute to the change in the balance of consumer's marginal calculation.

Conclusions

It is undoubtable that year by year the negative impact of the processes of mass consumption on the environment increases. An important step is to

realize the needs of consumers and the need to protect the environment. Gaining knowledge in this field and forming a sense of responsibility for the natural environment among consumers in the face of today's threats seems to be insufficient. It is necessary to engage consumers in joint activities and projects that would arise in cooperation with them. Undoubtedly, an important informative value for companies, state and local authorities is to identify the factors contributing to the interest in sustainable consumption. As it is often indicated by the results of the research dealing with these problems the main motivator for action on sustainable consumption is the economic incentive that contributes to modifying consumers' behavior. The test results should not be surprising, because the determinants of consumer behavior are: the amount of income that consumers have and the prices of goods and services, that is, economic factors. Also of note is the fact that under the influence of the growing environmental awareness, consumers are increasingly guided by more ethical and environmental issues in the choice of purchased goods and services.

As it turned out, among the activities that should be pursued to improve the environment in Lubuskie voivodeship, in the first place were those associated with support for programs striving for greater use of green energy (biofuels, solar, wind energy etc.). In the second place, creating the foundation for a modern municipal waste management, providing an increase in the recovery of waste, and in the third, environmental education.

It is worth noting that the described behavior, though resulting largely from economic reasons, bring tangible benefits not only to test takers and their families, but also the whole of society, thus contributing to environmental protection. Therefore, it is particularly important to build environmental awareness among society so that the actions taken by them do not result to a significant extent only from the financial aspect, but also out of concern for the environment, and for present and future generations. It is important that consumers realize that the quality of life and human health depends on the environment in which they live.

It is necessary, above all, to use the socio-economic policy which would be appropriate from the point of view of sustainable consumption, operating with economic incentives at the present stage of economic development. The market mechanism operating with pricing conditions remains the main platform of consumer choice in the domestic market. In influencing it, factors of importance are income-tax mechanisms affecting the size of the price that an individual consumer pays.

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Annex

Table 1. Reasons for buying environmentally-friendly products

Statements about the environment and environmentally friendly products	27 EU countries			Poland		
	I agree	I do not agree	Difficult to say	I agree	I do not agree	Difficult to say
I feel that the use of environmentally friendly products is right	95	4	1	98	2	0
Buying environmentally friendly products can really change the environment	91	8	1	95	4	1
Buying environmentally friendly products can really give a good example	89	9	2	92	7	1
If I use environmentally friendly products, my friends or family will be of the opinion that this is a good thing	80	15	5	89	8	3
Environmentally friendly products are as effective as conventional products	74	21	5	76	20	4
Environmentally friendly products are good value for money	55	39	6	63	28	9
Environmentally friendly products are readily available in stores	54	43	3	52	44	4
It is easy to differentiate environmentally friendly products from other products	51	47	2	52	44	4

Source: Flash Eurobarometr... (2012, p. 1).

Table 2. Characteristics of the research sample

Specification	Respondents	
	Number	Percent
	Sex	
Female	318	63.6
Male	182	36.4
	Place of residence	
City	238	47.6
Village	262	52.4
	Education	
Vocational	14	2.8
Secondary	226	45.2
Higher	260	52.0

Table 2. Continued

Specification	Respondents	
	Number	Percent
	Income per one person in the household	
Below 500 zł net	28	5.6
500-1000 zł net	150	30.0
1001 – 1500 zł net	121	24.2
1501-2000 zł net	137	27.4
2001-2500 zł net	43	8.6
2501-3000 zł net	0	0.0
3001-3500 zł net	21	4.2

Table 3. Opinions of respondents on measures to improve the environment in the Lubuskie voivodeship

Specification	Number of indications	Indications percentage [%]	Percentage of respondents [%] (n=500)*
Support for the projects, greater use of green energy (biofuels, solar, wind energy, etc.)	383	11.3	76.6
Creating the basis for a modern municipal waste management, providing an increase in the recovery of waste	319	9.4	63.8
Environmental education	313	9.2	62.6
Construction and modernization of the sanitary sewage system	283	8.3	56.6
Increasing the level of recovery of industrial waste	261	7.7	52.2
The introduction for all residents of the need to segregate waste	249	7.3	49.8
Elimination of uncontrolled discharges and discharges of untreated sewage from cities and industrial plants	248	7.3	49.6
Promoting the production and distribution of energy from renewable sources	239	7.1	47.8
Conversion of existing heating systems in public buildings to more environmentally friendly, in particular the reduction of low emission	238	7.0	47.6
Introduction of modern technologies in the industry and energy in order to reduce the water-holding capacity, material consumption, waste generation and energy intensity of production and the reduction of emissions to the environment	228	6.8	45.6
Construction and modernization of the sanitary sewage wastewater treatment plant	226	6.6	45.2

Table 3. Continued

Specification	Number of indications	Indications percentage [%]	Percentage of respondents [%] (n=500)*
The modernization and development of urban heating systems in the public domain in order to reduce emissions and improve energy efficiency	161	4.8	32.2
Promoting energy efficiency and use of renewable energy sources in enterprises	127	3.8	25.4
The necessity to refrain from unjustified use of groundwater for industrial purposes	116	3.4	23.2
Total	3391	100.0	-

Comments: *The share of respondents did not add up to 100%, respondents could give more than one answer

Table 4. Implementation of environmental solutions by households and the purchase of food as well as eating habits in relation to sustainable development

Specification	Number of indications	Indications percentage [%]	Percentage of respondents [%] (n=500)*
Using reusable bags	396	21.9	79.2
Segregating of waste	342	18.9	68.4
Equipment of houses/flats in energy-efficient lighting	316	17.4	63.2
Buying products that are produced in an environmentally friendly way (organic products)	302	16.7	60.4
Economical water use	167	9.2	33.4
Turning off the phone chargers, computers and other equipment when not in use	165	9.1	33.0
Equipment of houses/flats in household appliances that guarantee less consumption of electricity	123	6.8	24.6
Total	1811	100.0	-

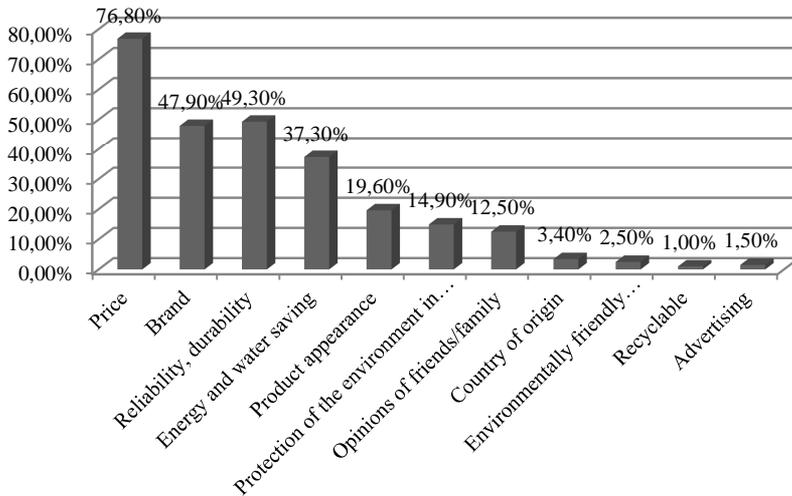
Comments: *The share of respondents did not add up to 100%, respondents could give more than one answer

Table 5. Motives for the implementation of environmental solutions by households

Specification	Number of indications	Indications percentage [%]	Percentage of respondents [%] (n=500)*
Economising (economic factor)	421	55.5	84.2
Concern for the environment	171	22.6	34.2
Influence of other people (family/friends/ environment)	121	16.0	24.2
Environmental campaigns	45	5.9	9.0
Total	758	100.0	-

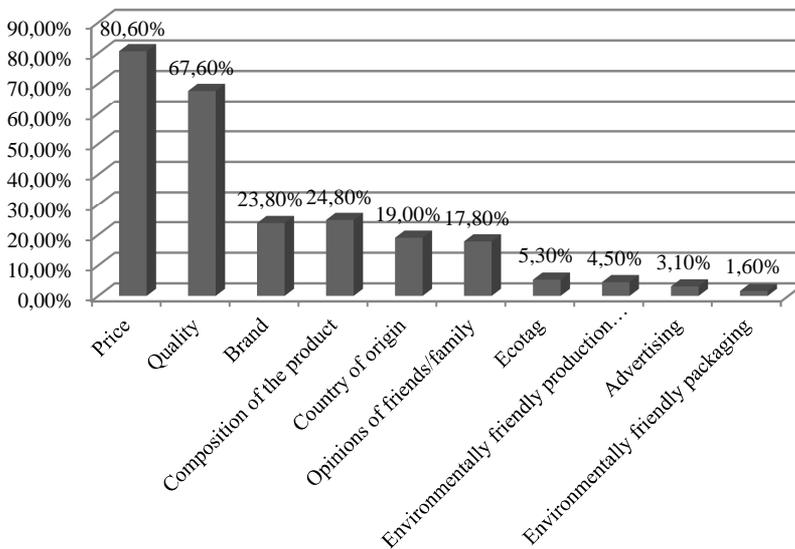
Comments: *The share of respondents did not add up to 100%, respondents could give more than one answer

Figure 1. Selection criteria for food products



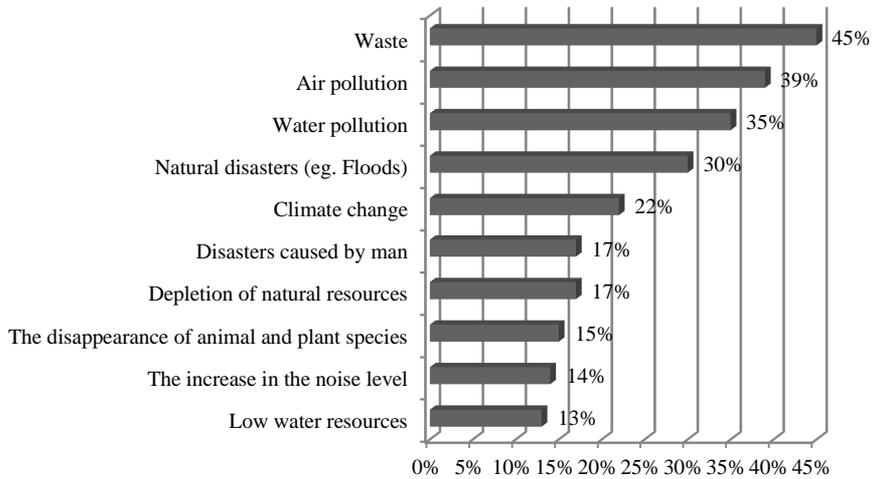
Source: Boltromiuk (2009, p. 4).

Figure 2. Selection criteria for industrial products



Source: Boltromiuk (2009, p. 4).

Figure 3. The biggest environmental problems in Poland (n=1000)



Source: *Study environmental awareness...* (2014, p. 22).

Figure 4. Respondents' opinions regarding the assessment of the overall state of the environment at their place of residence

