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COUNTRY REPORT LITHUANIA

Views, Opinions and Ideas of Citizens in Europe on Science

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For more information on the report, the results of the VOICES project, please contact Marzia Mazzonetto (mmazzonetto@ecsite.eu).

CONTENTS

1. Introduction

1.1 The VOICES project

VOICES (Views, Opinions and Ideas of Citizens in Europe on Science) is a year-long, Europe-wide citizen consultation exploring the concept of waste as a resource. It represents an innovative method of integrating public opinion into the 'Climate action, resource efficiency, raw materials' dimension of the Horizon 2020 Work Programmes beginning in 2014.

Funded by the European Commission and led by Ecsite, the European network of science centres and museums, the VOICES project is a response to the Science in Society 2013.1.2.1-1 call on citizen participation in science and technology policy. Citizens are invited to give input to the Consolidation Group that will define the priorities for the next work programme on 'Urban Waste' (call SiS.2013.1.2.1-2).

The main aim of VOICES is to yield valuable insight on methods and procedure for engaging citizen participation to help set the research agenda for Europe's Responsible Research and Innovation framework. The knowledge gained through VOICES will be put to use in similar participatory actions across Horizon 2020.

1.2 Citizen participation in social innovation

A national and European capacity-building initiative, VOICES unites science communication practitioners and academics, and, as such, will result in an effective method through which to consult the public on science and technology related issues.

Compared to many other consultation initiatives, VOICES represents a breakthrough because of its scale (covering all of Europe) and because of the methodological approach used on this wide scale: an approach which makes use of a qualitative methodology, which allows a harvesting and deep understanding of citizens' views, fostering real governance processes and social innovation.

VOICES is also very innovative in its commitment to formally include the results of the citizens' consultations in the main policy document that will shape the priorities of European research. Another unique element is that the knowledge gained with this pilot, in terms of methodology, infrastructure and results, can be used to organise similar participatory actions across Horizon 2020.

1.3 The process

One thousand European citizens participated in focus group discussions about 'Waste as a resource' using a structured VOICES methodology which spans training, implementation and analysis. The methods, infrastructure and results of VOICES are fully documented on an open access portal (www.voicesforinnovation.eu) designed for similar participatory actions occurring throughout Horizon 2020.

VOICES engaged citizens in 33 locations covering 27 EU countries. 28 Ecsite network institutions make up the Third Party task force which organised the 100 focus groups, with approximately ten citizens each, in their respective countries.

Ecsite Project Managers and researchers from the Athena Institute, VU University Amsterdam, were responsible for conducting the focus groups, analyzing public consultations, writing the country and synthesis reports and disseminating their outcomes at public events.

1.4 Structure of the report

In this country report on the VOICES outcomes from Lithuania, the VOICES research methodology is further detailed in the following chapter. In Chapter 3, some specific data is provided on the country's population, on national urban waste figures and on specificities of the participants of the focus groups. Chapter 4 presents the results of the citizens' consultation on waste management at household level, barriers and concerns experienced in prevention and management of waste, and ideas for research and innovation, policy, management and communication. The report ends with a summary and discussion of the findings.

2. Methodology

This section provides general information about the focus group method, and in particular about the VOICES approach. It also describes the structure of the VOICES focus groups and the process of data analysis.

As a qualitative research method, the focus group is increasingly used in political and social sciences, and can be defined as "a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment".[1] An important advantage of focus groups in comparison to other research methods is that participants can respond to and build on the views expressed by the other participants. Because of this interaction, focus groups generate a large variety of opinions and ideas which provide insightful information, while maintaining a specific focus during the discussion. The method provides the opportunity to gain in-depth insight into ideas, values, wishes and concerns of participants and stimulates shared creative thinking. A specific characteristic of the focus group method is that it seeks understanding of a research topic from a particular perspective; in the case of the VOICES project, the perspective of European citizens.

2.1 The VOICES focus group approach

In the VOICES project, a total of 100 focus groups were held, each of them with approximately 10 citizens. Participants were selected by local recruitment agencies, according to predefined selection criteria. The selection criteria were applied in order to obtain diversity in focus group participants, and to represent society at large. General selection criteria with respect to demographic information included: sex (50% men and 50% women), education (low, medium and high levels of education)[2] and employment (employed, unemployed, retired and student). The focus groups were stratified by age using the following categories: 18 to 35 years of age, 36 to 50 years of age and 50+. Other criteria addressed elements relevant to the VOICES project's specific topic, including: participants from urban and non-urban areas[3], diversity of types of municipality (at least five different municipalities, including bigger towns and smaller villages), and diversity of housing situation (flat or house). These selection criteria were applied in all EU member states. Because of the local context and the availability of participants there are minor differences between member states in the resulting composition of focus groups.

In most EU member states, three focus groups were conducted, all in one location. However, all member states with a population of above 25 million (Germany, France, Spain, Poland, Italy and the UK) had two sets of three focus groups each in two different locations, resulting in six focus groups in total in these countries.

The focus groups lasted 3 hours and followed a semi-structured script consisting of an introduction, four main exercises and an evaluation part (see box 2.1). During the focus groups, specific attention was paid to keeping the environment noise-free and providing enough space to relax, walk around and engage in the conversation. Each focus group was led by a moderator, who was in charge of stimulating and guiding the discussion. The moderator's role was also to maintain the focus of the discussion by ensuring that key themes were covered, while managing group dynamics.

Moderators facilitated the discussion by following the focus group script, which was provided to them in advance and contained questions and exercises to guide their work and ensure equal individual input as well as group discussion. Because of their crucial role in the focus groups, all moderators involved in the VOICES project followed a specific 2.5 day training course. The training focused on specificities of the VOICES focus group script as well as on refining important competencies of the moderators' role, including interpersonal communication, process management and understanding of the topic addressed.

In order to capture the data generated during the process, audio and/or video recordings were made of all focus groups. A note taker was also required to be present for the entire duration of the focus groups, in order to record additional data and to assist the moderator. All visual data generated by the participants, for example, individual drawings or collective mind maps, were collected at the end of each focus group and photographed.

BOX 2.1 SUMMARY OF VOICES FOCUS GROUP SCRIPT

INTRODUCTION

The moderator introduces himself/herself, the note taker and any observers and asks the participants to introduce themselves. The moderator then explains the aims and topic of the focus group using a PowerPoint presentation.

EXERCISE 1

The goal of Exercise 1 is to raise the focus group participants' awareness of household waste and related waste management systems. It also identifies what people know and do with respect to their household waste. Participants are asked to draw on an A3 sheet of white paper how they think the waste streams are managed around their house. When they have finished, the papers are collected and taped to the wall. The moderator then asks the participants to explain their drawings and encourages them to elaborate.

EXERCISE 2
Exercise 2 aims to identify barriers and concerns of the participants with respect to current urban waste pathways (including prevention) and to go into more depth on the causes and underlying reasons for the reported barriers and concerns. The moderator shows the participants PowerPoint slides about the four most common pathways of waste and prevention. After this, participants are asked to think about barriers and concerns they experience regarding waste, waste management and prevention of waste and to write two examples of these barriers or concerns down on Post-Its. The Post-Its are collected and for each, the moderator asks the participants to explain what they wrote down and why.

EXERCISE 3
The objective of Exercise 3 is to stimulate creative ideas for improvement and solutions for problems and possibly to translate ideas and solutions into research topics or questions. The moderator introduces the concept of a 'zero waste society' to the participants using PowerPoint slides. The participants are then asked to work in groups and brainstorm about ideas for achieving the aims of a 'zero waste society', focusing especially on what research and innovation would be needed for this. Participants are then asked to present their ideas to the entire group, while the moderator uses a flip chart to list all concrete ideas for research and innovation suggested by the participants. The moderator then asks the participants to reflect further on possible futuristic technical solutions and 'wild' ideas regarding waste management and prevention.

EXERCISE 4
The aim of Exercise 4 is to attribute a level of priority to the research topics formulated in Exercise 3.
Participants are given three stickers, which represent money (1 million each) that they can spend on ideas written down during Exercise 3. They are asked to assign one or more stickers to the ideas that they feel should be prioritised because of the importance of the problem it addresses and/or the quality of the solution it provides. Once the participants have assigned their stickers, a plenary discussion is held to talk about which ideas got the most stickers and why.

EVALUATION
The moderator ends the sessions and asks the participants to share feedback on their experience taking part in the VOICES focus group. Participants are also asked to fill in an evaluation questionnaire.

2.2 The VOICES approach to urban waste

In the focus groups, citizens of Europe were consulted on the topic 'Waste as a resource'. Urban waste is defined as solid waste collected by or on behalf of municipal authorities and disposed of through the waste management system. Most of this waste is produced by households, although similar waste from sources such as commerce, offices and public institutions are included. Consumer products disposed of by citizens, like clothes, electronics and furniture etcetera, are also considered urban waste. Industrial waste is not considered urban waste and is outside the scope of this project. On average, each of the 500 million people living in the EU throws away around half a tonne of household rubbish every year.[4] This amounts to 70 million truckloads of household rubbish for the EU as a whole every year (one truckload is considered to be 3500 kg, the maximum weight for a truck). All this waste has a huge impact on the environment, resulting in pollution and greenhouse gas emissions that contribute to climate change, as well as significant loss of materials - a particular problem for the EU, which is highly dependent on imported raw materials. Current EU policy aims to reduce both the environmental impact of waste and the use of raw materials needed for production processes. Nowadays, the challenge of urban waste is approached from two perspectives; the waste hierarchy and the life-cycle approach. These combined approaches are the building blocks of the current thematic strategy on waste.[5]

In order for the results of the focus groups to be translated into outcomes which are relevant and beneficial for European research, the VOICES focus group design explicitly uses these same two approaches in presenting the topic of urban waste and in structuring the exercises. The vision of a 'zero waste society' is used as a

focus for the participants while thinking about possible innovations and the techniques and knowledge necessary to develop them.

The waste hierarchy is initially depicted as a pyramid with a wide base representing disposal in a landfill, a second layer representing recovery of energy through incineration, a third layer representing recycling, a fourth representing reuse and the top (and smallest one) representing prevention. This reflects the current situation of waste management in Europe. In order to achieve a 'zero waste society', this pyramid should be turned around and its top, prevention, should become very wide while its base, landfill, very narrow.

The five-step waste hierarchy can be used as a rule of thumb when choosing between options of waste management, with prevention as the most preferred and disposal in landfill as a last resort. However, all products and services have environmental impacts in various stages of their existence. To avoid shifting negative impact from one stage to another, the life-cycle approach is also considered. Life-cycle thinking involves looking at all stages of a product's life - from the extraction of raw materials for their production to their manufacture, distribution, use and disposal - to find out where improvements can be made to reduce environmental impacts and use of resources.

2.3 Analysis of the focus groups

After each focus group, a summary report was written by the moderators based on the note taker's notes and the information on the flip charts. A draft of this summary report was sent to the focus group participants who were asked to comment on it. Moderators collected any feedback and included it in the final version of the summary report as an annex. The audio recording of each focus group was transcribed word-for-word and translated into English for analysis. The translated transcripts were coded and analysed using MaxQDA, a programme for qualitative data analysis. For the analysis of the data, both structured analysis as well as open coding were used. Structured analysis was carried out by using a predesigned coding sheet based on preliminary research. This type of analysis allows for all relevant outcomes to be extracted from the raw data. Open coding runs parallel to the structured analysis and allows for insights unforeseen by preliminary research to emerge. The summary reports of the individual focus groups have been used to validate and complement the analysis.

2.4 Ethical issues

At the beginning of the focus groups, all participants were asked to sign an informed consent form providing information on the topic and aims of the focus group. It was explained that participation was voluntary and participants were free to withdraw at any time, without giving reason. The form obtained participants' approval for audio and video-recording of the focus group, for the use of the resulting data for research purposes, including the use of anonymous quotes, and for data storage for five years. All data were processed anonymously.

[1] Krueger R.A. (1994). Focus Groups: A Practical Guide for Applied Research. Sage: Thousand Oaks, California

[2] The typology of low, medium and high education level is based on the International Standard Classification of Education (http://en.wikipedia.org/wiki/International_Standard_Classification_of_Education)

[3] The urban-rural typology is based on the new urban/rural typology developed by the European Commission (http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Urban-rural_typology)

[4] Questions and Answers, Thematic Strategy on the prevention and recycling of waste and the proposal for the revision of the Waste Framework Directive (Available at: http://ec.europa.eu/environment/waste/pdf/faq.pdf)

[5] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions on the Thematic Strategy on the Prevention and Recycling of Waste, Brussels, 19.1.2011, COM (2011) 13 final; EU Waste Policy - The Story behind the strategy, 2006

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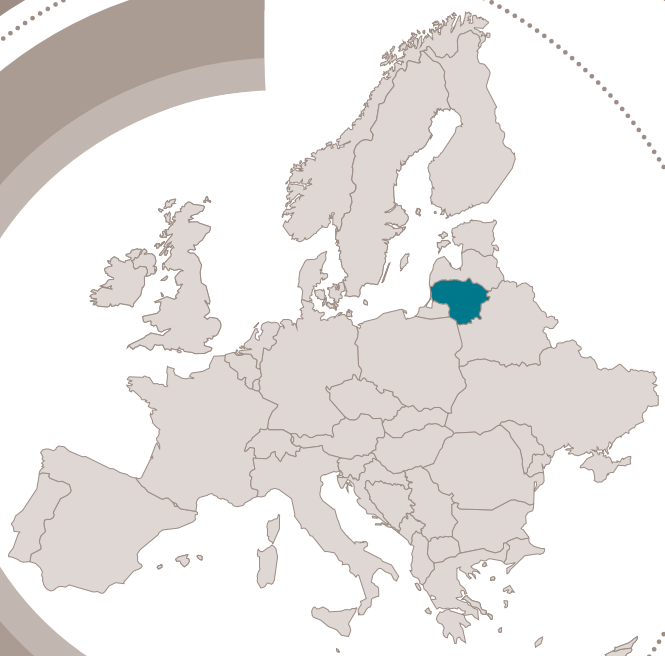


3. Country relevant data - Lithuania

This chapter of the report presents relevant data about the country and local focus groups. This includes demographic data, data related specifically to local waste management and information concerning the setting of the local focus groups.

3.1 Demographic country data

In terms of population, Lithuania is one of the smaller EU countries with approximately 3 million inhabitants. 43% of the inhabitants live in urban areas, while others live in intermediate areas (31%) and urban areas (26%).

Table. 3.1 Population Data[6,7,8]

		2011	
Population at 1 January		3 052 588	
Population as percentage of EU27		0.6%	
Gross Domestic Product (PPP)		16 600 Euro	
Population urban-rural typology	Urban	839 000	26%
	Intermediate	1 015 000	31%
	Rural	1 391 000	43%

3.2 Factsheet on waste

The amount of municipal waste generated and treated in Lithuania is lower than the average amount of waste treated in the EU27. Lithuania ranks 25th on the EU27 ranking list on Municipal Solid Waste Recycling (MSW). Since 2004, the recycling rate of MSW has slightly increased, but the overall recycling level is still low. Even if the positive trend from 2006 to 2010 continues, it would require an exceptional effort to fulfil the 50% MSW recycling target set by the EU for 2020.[9]

Table 3.2 Municipal Waste[10,11]

		Lithuania		EU27 average	
Municipal waste generated (kg per person)		381 kg		502 kg	
Municipal waste treated (kg per person)		348 kg		486 kg	
	Landfilled	327 kg	94%	185 kg	38%
	Incinerated	0 kg	0%	107 kg	22%
	Recycled (material recycling)	14 kg	4%	122 kg	25%
	Composted (organic recycling)	7 kg	2%	73 kg	15%

3.3 Composition of the focus groups

In Lithuania three focus groups (FGs) took place on the weekend of 23rd March 2013 in Klaipeda, at the Lithuanian Sea Museum, moderated by Andra Lukosiene, Educator of the museum.

In total, 30 people (14 male and 16 female) participated in the three FGs. The age of the participants ranged from 18 to 74 years old: 10 participants were aged between 18 and 35 years; 10 between 36 and 50 years and 10 were 51 or older. Educational levels were diverse, with 13 participants with a high level of education, 12 a medium level and 5 participants with a low level of education. 16 participants had a job, while 8 were unemployed, 3 were retired and 3 were students. 14 live in a house and 16 in a flat. Details of the composition of these focus groups are presented in the table below.

Table 3.3 Composition of the Focus Groups

		FG1*	FG2	FG3	TOTAL
Participants	Total	10	10	10	30
Gender	Male	4	6	4	14
	Female	6	4	6	16
Age	18 - 35	0	10	0	10
	36 - 50	10	0	0	10
	50+	0	0	10	10
Education	High	6	3	4	13
	Medium	2	4	6	12
	Low	2	3	0	5
Employment	Unemployed	3	4	1	8
	Employed	7	3	6	16
	Retired	0	0	3	3
	Student	0	3	0	3
Housing	Flat	4	5	7	16
	House	6	5	3	14

* In FG1 one participant had a visual impairment and was therefore supported by an assistant throughout the focus group.

[6] Eurostat Statistics Database Online (http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database
[7] Eurostat Newsrelease (http://europa.eu/rapid/press-release_STAT-12-51_en.pdf)
[8] The urban-rural typology is based on the new urban/rural typology developed by the European Commission (http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Urban-rural_typology)
[9] European Environment Agency (2013). "Managing municipal solid waste - a review of achievements in 32 European countries" EEA Report No 2/2013 (http://www.eea.europa.eu/publications/managing-municipal-solid-waste)
[10] Eurostat Newsrelease (http://europa.eu/rapid/press-release_STAT-12-48_en.pdf)
[11] The reported quantities of waste *generated* and *treated* do not always match exactly due to one (or more) of the following reasons: Estimates for the population not covered by collection schemes; Weight losses due to dehydration; Double counts of waste undergoing two or more treatment steps; Exports and imports of waste; Time lags between generation and treatment (temporary storage)

4. Results

This chapter describes the overall results of all focus groups held in Lithuania. The chapter includes three sections, which are structured according to the exercises of the focus groups. The first section provides insight into what people think and do with respect to waste management at the household level. The second section provides an overview of barriers and concerns of the participants about current urban waste prevention and management, and identifies underlying reasons for the reported barriers and concerns. The third section presents participants' ideas for research and innovation needed in order to achieve a 'zero waste society' including concrete information on the research category, the aim of the research, the proposed target group and the perceived priority of the research idea. Participants' ideas for policy, management and communication are included as well. Throughout the results, quotes of focus group participants are provided for illustrative purposes.[12]

4.1 How is waste managed at household level?

This section describes what people know and do with respect to household waste. It includes four parts. First, an overview is given of the types of waste that are generally collected separately and those that go in the general bin. The second part provides insight into how the waste is collected, while the third part describes what participants think happens to the waste after it is collected. The fourth part describes whether people deal with waste as they are supposed to and to what extent they think waste management is conveniently organised.

4.1.1 Waste separation

Waste separation at household level is quite common practice. Most participants separate at least one extra waste stream (a waste stream is defined as one type of waste that is collected separately covering the majority of their household waste) in addition to general household waste. Paper, plastic and glass are separated. Paper is often used for kindling, and cardboard and wood are burned for heating when people have the facilities to do so, at home or for example in their garage. Food waste is used as compost when feasible or it is thrown in the bin with the general household waste. One participant mentioned feeding food waste to the dog which saves on dog food, although the dog can only eat so much. Certain items like medicines, batteries, special lamps, household appliances and clothing are generally kept separate as well.

Only a few participants mentioned special bins, provided by the waste disposal company or local government, for waste separation at home. In general, they receive one bin for household waste and have to arrange for separation themselves. Some do mention special bins, for example for compost waste, but this does not seem to be common practice. Apartment buildings often have some sorting arrangement on the ground floor or just outside the main entrance. Some participants have no access to facilities for handing in their sorted waste and therefore do not separate at all.

[12] Abbreviations used in quotes: FG# = number of focus group, P# = number of specific focus group participant, PX = number of focus group participant unknown, M = Moderator.

4.1.2 Waste collection

A number of participants mentioned services for collecting waste directly from home, both for sorted waste and general household waste. Some participants mentioned garbage trucks that come to collect bags or to empty the bins. When it does not get taken directly from home, the waste needs to be deposited in special containers located somewhere in the community. There are generally containers for paper, plastic, glass and general waste in the vicinity. These are often provided in the courtyard of an apartment building or at a central public location, although some participants have to drive to the nearest city to discard their sorted waste. These containers are supposed to be emptied by a company at regular intervals.

Most participants mentioned separate collection points or a (sometimes free) collection service for items like medicines, batteries and household appliances. However, even though these items are separated at home, participants mentioned that they do not have enough of these items to make it worthwhile to take them to the collection point or use the collection service. Seasonal containers are also mentioned by some participants and others recognize this practice as well. These are big containers, placed for example twice a year at a central location, for all people to deposit the waste that has been accumulating, like construction waste and furniture. The participants generally considered this a good practice.

Reuse is a widespread practice in Lithuania; many items get a second life. Some examples that were mentioned several times include: jars used to preserve fruits or vegetables, clothing handed down or passed on to senior citizens, and construction waste used to improve roads. In general, the participants seem to check their waste to see if something can still be of use. One participant mentioned the use of 5 litre water containers to plant saplings in a nursery.

4.1.3 Knowledge about waste pathways

Most participants were not certain about the waste pathways after disposal of their waste. Some guessed or knew that their general waste went to landfill. Participants are generally sceptical about their sorting efforts being worthwhile. When asked about what happens to the waste after separate collection, many think that it all ends up on one heap in a landfill. Some are quite optimistic about certain types of waste getting recycled, but this is hardly ever based on definite knowledge.

On the other hand, certain recycling practices are fairly well known. For example, electronic appliances are stripped down for their parts, especially their precious metals, and some participants know that garden and food waste is used for composting collectively. One participant even provided very detailed knowledge about the concrete blocks in washing machines which are recycled to renovate roads.

4.1.4 Waste management behaviour and convenience

The extent to which people separate and recycle correctly differs greatly from county to county. In some counties, the system is relatively easy and people do not have to separate much waste, while in other counties a lot of effort is needed to recycle. Even when participants do have the facilities, some admitted that they do not recycle themselves or that they know people who do not recycle. One participant mentioned that some people in the apartment building misuse the offered facilities by, for example, blocking the waste chute twice with Christmas trees.

Several participants reported that the fees for waste management encourage misbehaviour, such as putting the wrong waste into a container or dumping waste illegally in the countryside.

"There are problems with tyres and so on. They throw them into bins... If you take them to the landfill,

you have to pay a lot of money. Basically... we even have to pay for it ourselves. People come, then [having found out the conditions] turn around and throw away the tyres by the roadside." (Lithuania FG 1, P8)

In addition, some participants mentioned that certain types of waste pile up in their house, such as medicines and batteries.

In general, the collection services which are alerted by a phone call are experienced as convenient and working well. Two instances of a communal waste collection day in a forest that went wrong are mentioned: the municipality was supposed to come and pick up the collected waste but, as this did not happen, the waste was spread out in the countryside.

4.2 Barriers and concerns regarding urban waste

This section provides an overview of the participants' barriers and concerns with respect to current urban waste and identifies underlying reasons for the reported barriers and concerns. The section consists of four parts. The first part, 'Waste prevention and production', focuses on barriers and concerns related to goods in the phase before they enter the household including both waste prevention and production. The second part, 'Waste management in the household', addresses goods and waste in the phase while they are in the household. The third part, 'Waste disposal and pathways', describes barriers and concerns related to the phase in which waste is disposed. Relevant issues related to urban waste management that could not specifically be related to the three parts mentioned before are described in the fourth section, 'Other urban waste issues'.

4.2.1 Waste prevention and production

Related to waste prevention and production, several barriers and concerns were mentioned during the focus groups. One of the main issues revolved around shopping habits. The participants considered that people generally buy more than they need and do not take into consideration the consequences for both resource depletion and waste. This demand fuels the current production system and its related problems.

"We're used to buying food and then throwing it away. Next, I thought about clothes on more than one occasion, how shops are packed full of clothes. We buy them without thinking. OK, maybe we give some of them away but, really, most of them are just thrown away and the production just goes on." (Lithuania FG2, P1)

Packaging is a major concern of the participants. Most purchases involve some packaging material and that generates much waste. For example: daily shopping, like milk, always involves packaging; different vegetables all get packaged separately at the cashier, even if the customer puts them in one bag; and drinks are sold in ever smaller quantities. One participant mentioned a special water bottle with a filter that can be reused 300 times, instead of continuously buying new ones. However, participants considered that this bottle is too expensive for households with standard incomes. As well as packaging that comes directly with the items, the carrier bags offered in shops are mentioned in all focus groups as greatly contributing to waste plastic in the environment. The shops do not provide alternatives, for example, paper or cloth. Another interesting alternative is mentioned, but these options are not very common in Lithuania.

"[...] bags from secondary raw materials, processed from the same plastic bottles aren't fully utilised here." (Lithuania FG 1, P7)

One concern that surfaced in various forms in the different focus groups was that reuse becomes less and less common practice. Some participants recall times past, when almost all forms of packaging were reused or consisted of paper. Currently, containers for food or liquids, glass jars and plastic bags are simply thrown away, while they are actually quite suitable for reuse.

4.2.2 Waste management in the household

Most participants feel that management of waste in the household is quite a challenge. It takes time and effort to properly sort waste and it often has to be cleaned before it can either be collected or disposed of. Apart from this, arranging separation of the different types of waste takes up space at home. Households do not get special bins allocated by either the municipality or the company to support their sorting efforts. They generally get one large bin, but this is not convenient if they want to separate their waste.

Apart from these practical issues, the participants find there is a lack of incentives to sort their waste in order for it to be recycled. Only a very small number of items can be handed in separately and there is often no refund involved. Without a specific use or benefit, people are not inclined to put in the extra effort. Moreover, people feel they have to put in extra effort and even money, while the waste disposal company earns money from the sorted waste.

> *"And another thing is, let's say, you buy a salad, as a consumer, I recycle, and I also have to wash the packaging, when they don't reduce what I have to pay for the recycling, and I use my own water, I pay money to make money for someone else, so you start thinking, why should I wash it?" (Lithuania FG2, P2)*

In every focus group many comments were made about the lack of information and publicity related to all aspects of recycling. Participants considered that, in general, little is known about why it is important to recycle, how to separate waste, what can be recycled and what not, and where to bring items for recycling. If there is information, it apparently does not reach the people who need to know.

> *"And as for barriers, that there's no information about recycled waste, at all, what we find out ourselves is all we know. There's no publicity about it or anything. Nothing at all has appeared on the TV or in the newspapers or any kind of publicity, nothing at all. A petrol station or something had an advert, like, let's recycle or something, but that was quite a while ago and right now there isn't anything at all." (Lithuania FG2, P6)*

4.2.3 Waste disposal and pathways

The category of waste disposal and pathways generated the largest amount of barriers and concerns. Three big clusters can be distinguished: issues around public collection bins, collection of waste by the waste management company, and issues related to recycling. Regarding the bins, common barriers are the complete absence of special bins for separated waste, distance to the bins, and not enough containers so that they are full.

Apart from these concerns, some more specific concerns were also mentioned. The openings of certain containers are too small for items, such as clothing or paper. Containers are often broken and, when they are full, they become messy and smelly. Homeless people rummage through the mess, making it worse. One participant mentioned that nice initiatives are set up but the follow-up is lacking. For example, clothes could be deposited in a special container but this did not get emptied at all and the clothes were not taken anywhere. Lastly, participants notice that people copy each other's bad behaviour, for example throwing waste on the street, next to the bin or in the wrong bin.

There were some barriers and concerns related to waste collection. Collection is not always well organised by the company. For example, bins are not emptied at all, or not according to schedule. Sometimes, participants have to make multiple requests before the company collects the waste. Participants of two focus groups noted that people sometimes set fire to containers and, only then, does the company come to collect the waste. Another participant noted that waste management companies are required to put bins somewhere, but do not seem to care if this spot is convenient for the people who need to use them. Some participants mentioned that when a specific bin contains 'wrong', unsorted waste, it does not get collected and the waste is left for the people to sort themselves. When confronted with complaints, the municipality refers to cuts in funding to explain the situation.

"[P 1] When people inquire at the municipality, the explanation was that funding has been cut, they reduced the areas from which bins are emptied and reduced the number of cleaners who clean up the area. So when you go there in summer, it's impossible - eight bins for the whole neighbourhood and tramps [homeless people] rummaging around as well.
[P3] In fact, I heard from a worker, who cleans all those areas. Maybe we get angry at those who do clean up after themselves or don't, but really, they get work piled on them, their working hours are reduced, they work like slaves. There aren't enough people." (Lithuania FG 1)

Some issues were raised specifically related to recycling of waste, apart from the availability of special containers. There is a lack of specific information about where to hand in recyclables or to get a refund for various items. One participant mentioned that there are no special places to hand in packaging containers. Participants mentioned that recycling does not pay off. As mentioned in the previous section, the current recycling system requires both effort and payment from people. Even if there is a refund, the costs involved in getting waste to the proper place outweigh the benefits and people do not do it.

"I work at a university, the students write a load of written work. That should go to the paper recycling places, but really, you have to spend money on fuel and don't know how much you'll get for the waste paper, a few cents. We even suggested to one orphanage to come and take it then go and give it in, but they made some calculations and said it's not worth it for them." (Lithuania FG2, P2)

Moreover, large quantities are often demanded before a company is willing to buy waste from a consumer. Participants said that to avoid paying, people abuse the system, put waste in the wrong bin, or dump their waste illegally in the countryside or by the roadside. In addition, participants reported that they themselves and others do not trust that their sorting and recycling efforts are worthwhile. There are many rumours of all rubbish ending up on one big heap anyway or waste being sorted again at the landfill. According to the participants, this makes people very much disinclined to put in extra effort and money.

Many concerns were raised about environmental pollution resulting from the current system of waste processing. Apart from illegal dumping, both incineration and landfill are considered to pollute the environment. However, participants considered that landfills are much more widespread and thus raised more concerns. One participant mentioned the difficulty of deciding which option is better, landfill or incineration, reflecting that this depends on the type of waste as well. Another suggested that the vast territory taken up by landfills could be put to another use as well.

Apart from environmental pollution, concerns were also raised about the health risks posed by incineration.

"For example, waste incineration plants, they planned to build one here in Lithuania, I wouldn't want there to be one near where me and my family live, which would burn all my waste and then I would have to breathe in all the polluted air. Even though they always tell us that there won't be any effect on the environment, but I don't trust that, they say that the chimneys would have filters, no, I don't believe that." (Lithuania FG2, P2)

General concerns about health risks resulting from maltreatment of waste were voiced in every focus group. An example of one of these concerns is disease spreading through improper management of waste sites, possibly causing an epidemic.

4.2.4 Other urban waste issues

In this category, concerns and barriers of a general nature are grouped. To prevent misinterpretation, certain issues that might have been more specific, and that the participants were not asked to explain further, are mentioned under this heading as well.

Participants commented several times that the general attitude towards their personal disposal of waste is careless and lazy. A sense of urgency and determination is lacking. One participant reflected that people do

not feel responsible because they do not experience a sense of ownership: it is none of their concern, as opposed to, for example, the house that they own. Also, several participants reflected that Lithuania has no culture of social control on these matters, unlike some other countries in Europe. This means that people do not generally point out each other's bad behaviour or speak up on these issues.

In general, participants stated that there is very little done to motivate the consumer to put effort into proper waste management. They mentioned a lack of political will to improve things, a lack of vision and no perception of urgency. Waste is simply not on the political agenda, according to the participants. They also reflected that Lithuania does not have enough money to improve the system and Lithuanians care too little to improve the system. All in all, no investments are being made to improve the waste processing system.

4.3 Citizens' ideas on how to realise a 'zero waste society'

This section presents participants' ideas for achieving a 'zero waste society'. A distinction is made between ideas related to environmental sciences and technology, and ideas related to policy, management and communication. Below, these ideas are described separately in tables. For each idea in the table, the research category is mentioned as well as the aim of the research and the proposed target group. In addition, the priority of the research idea as perceived by the participants is indicated in the tables, using stars to indicate the number of stickers assigned to a specific idea by the participants. Only ideas that were prioritised by the participants are described in this section. Ideas that were not prioritised are included in the full list of research ideas which is provided in Annex 1.

4.3.1 Environmental sciences and technology

In the domain of 'environmental sciences and technology', waste management companies, sometimes paired with consumers, are an important target group for ideas in the first category, and consumers and producers are the main target groups in the other categories. The first category, 'technical, physics, chemical, engineering', had the most ideas prioritised in this domain and the category of 'bio(techno)logical' had no prioritised ideas at all.

TECHNICAL, PHYSICAL, CHEMICAL, ENGINEERING

The category 'technical, physics, chemical, engineering' concerns ideas that require some research and/or development related to these research areas. The ideas are presented in table 4.3.1, ranked according to their priority. The idea that was given the highest priority concerns using waste for heating. Participants proposed an underground system of bins, with integrated incineration, directly connected to a central heating system of several apartment blocks, for example. This would save space; being underground, it would make effective use of the waste without having to transport it to another facility. It would also motivate people to recycle, according to the participant.

"And another utopic idea is basically, the waste that is flammable, make a bigger bin and put it underground, because I added that those recycling bins take up a lot of space. So, that whole bin, connect it to the central heating system, there would be motivation to recycle and competition for Kaunas Energy [waste processing company], think about it, if they connected the bins in every courtyard to the central heating system, it would be fantastic." (Lithuania FG2, P8)

The idea that was given second highest priority has to do with recycling more directly. The participants proposed a recycling device that does not require prior sorting. According to the participant who suggested the idea, this technology already exists and it should be integrated into the Lithuanian system faster. This device is seen as highly convenient and would improve recycling, but some critical remarks were made as well.

"So that you wouldn't have to sort: favourable for lazy people. But of course, the men mentioned, we'd

be increasing the army of unemployed because then manpower would no longer be necessary. The elimination of workers and respective categories is already taking place, but we're going in that direction, here..." (Lithuania FG3, P7)

Four more ideas received two priority stickers each. One is a collection container that crushes waste directly to a smaller size. People often throw away plastic bottles, for example, without crushing them. If the container itself crushes the waste, this would allow for more waste per container and thus less frequent collection.

"[P4] ...a device - container-pressuriser, if you put in a plastic bottle, they immediately get crushed. [P2] Yeah, so that there would immediately be more space, the containers should be spacious. Because most people throw them away without crushing them. Make it so that the container would crush it itself." (Lithuania FG2)

Another idea is a machine that can take waste items apart based on the difference in melting point of the various materials of which the item is composed. The machine should not be designed for packaging material and the like, but for items made from higher quality material, such as household appliances. The machine would greatly improve recycling of these materials and it would be very convenient. It is not clear if the idea pertains to the household level or is envisioned on a large scale for waste management companies to integrate in their system.

"I mean, all the household appliances, electronics. If we took everything apart we could throw it all in one and each thing, copper, glass, plastic - they all flow into different repositories - recycling. [...] Because let's take a computer even, and melt it at different temperatures and you won't have to separate the different parts." (Lithuania FG2, P5)

Yet another suggestion is to improve existing technology in order to use gas from landfills to procure heat. This was not further elaborated upon. The last suggestion in this category is a quasi-serious idea that got two stickers nonetheless: a household robot that would turn waste directly into cash. Its core feature is that you can get rid of your waste and receive your incentive - your refund - directly at home.

"Well and so, we jokingly wrote here, the women, that we'd like to have a robot at home that would process waste into cash [...]. You throw it in and it processes it. Just that it should already be installed in the wall of every home." (Lithuania FG3, P7)

Table 4.3.1 Ideas within the category 'technical, physics, chemical, engineering' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Technical/ Physics/ Chemical/ Engineering	Underground public waste bins connected directly to central heating system direct incineration	Effective use of waste	Waste management companies	☆☆☆☆☆☆
	Recycling device that does not require prior sorting	Improve recycling/ Convenience	Consumers/ Waste management companies	☆☆☆☆☆
	Collection containers that crush waste (for example plastic bottles) to a smaller size	Convenience in the home	Consumers/ Waste management companies	☆☆
	A machine that separates all waste based on the different melting points of the various components	Improve recycling	Consumers/ Waste management companies	☆☆

Technical/ Physics/ Chemical/ Engineering	Improvement of technology for using gas from landfills to procure heat	Effective use of waste	Waste management companies	☆☆
	A robot on household level that processes waste into cash	Convenience in the home	Consumers	☆☆

MATERIALS

The category 'material' groups ideas that focus on the material side of waste management, meaning all ideas that focus on the materials of which items or packaging are composed. In this category, three ideas were prioritised, and are presented accordingly in table 4.3.2. The first two are rather similar, but ask for different conditions. Manufacturing items from organic material received three priority stickers and manufacturing items from recycled materials received two. Products made from organic material can be processed more easily after use or should simply decompose when they end up in nature. Plastic carrier bags are mentioned as an example. Otherwise, items can be made from recycled materials or materials that can be recycled, for example recycled plastic. Neither idea was further elaborated upon.

The third idea in this category is to make packaging edible. Some participants responded that this already exists, however, it is not very common as yet. It was not explained in further detail.

"Scientists, scientists at Kaunas University of Technology have discovered how to pack curd in packaging made from the same dairy product powder, they pack it and you can eat it, nothing gets left." (Lithuania FG 1, P6)

Table 4.3.2 Ideas within the category 'material' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Material	Manufacture things from organic material	Effect on planet	Producers	☆☆☆
	Manufacture things from recycled materials	Less use of resources	Producers	☆☆
	Edible packaging material	Less waste production	Consumers	☆☆

ICT

One more idea got prioritised in the domain of 'environmental sciences and technology'. It was suggested to create an interactive computer program, for example a webpage or an app (an application, namely software for an electronic device, such as a mobile phone), to point people to the nearest location for recycling. For information, it would need your current location and a keyword for the material you want to recycle, for example 'plastic' or 'batteries'. It could be very convenient in several situations.

"[...] you go to Paris, you don't know where any kind of bin is and it shows you straight away. Because in your own village, city, street, you know where it is but, when you go somewhere else, you don't know where to throw something away, you throw it into the general waste bin." (Lithuania FG2, P2)

Table 4.3.3 Ideas within the category 'ICT' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
ICT	Program, app or webpage, to point you to the nearest recycling centre	Improve recycling/ Convenience	Consumers	☆

4.3.2 Policy, management and communication

The domain of 'policy, management and communication' had a larger number of ideas prioritised than the domain of 'environmental sciences and technology'. The main target group are consumers. Producers come second, and only one idea was directed at waste management companies. Important aims in this domain are increased recycling, awareness, behavioural change and reducing the impact on the planet.

POLICY

Ideas in the category 'policy' are mainly concerned with restrictions or incentives, often of a financial nature (see table 4.3.4.). The idea that got the highest priority was financing research into waste. The participant who forwarded the idea explained that there are several interesting areas for research, for example renewable energy, but that no funds are directed to such research, partly due to contrasting interests from companies with monopolies.

"A second thing: creating technological scientific studies. How to reorganise waste, how to use it, create nanotechnology, generate as little waste as possible. Designate quite a bit of money towards scientific research." (Lithuania FG 1, P9)

A very general suggestion, which was given second highest priority, was to create financial incentives for consumers to return all possible items for recycling. This should both encourage people to hand in their waste directly and provide an incentive for others to collect and hand in waste when it is not properly disposed of in the first place. Another suggestion is similar, but targets new waste collection and waste processing initiatives. These should also be encouraged financially to make it worthwhile to introduce a change in waste management.

"If a newly established small business could get income of some sort, they would go around collecting waste, even tyres, motor oil, they'll take it, process it, get some sort of grant from the government and create a new, usable product." (Lithuania FG 1, P9)

Yet another idea targets companies with monopolies and their general conduct. One participant explained this idea and how it is related to the first and third suggestion. Such companies are thought to influence the direction of research and restrict small businesses entering the market. Apart from that, they do not always have a code of conduct for dealing with the environment, or do not live up to it.

"As for monopolists [companies with monopolies], you need to control them, discipline them. Monopolists create business without any scruples, don't take nature's resources into account, don't look at how to effectively use raw materials. It's no secret, everyone's seen those films. These days, with the help of technology, we can live without oil products - diesel, petrol, we can live off electricity, use public transport and so on. But those monopolists, oil magnates won't let that happen, scientific research gets pushed into second place." (Lithuania FG 1, P9)

A last suggestion in this category was to reduce imports of lesser quality products, for example from China. Products should last longer so that consumers do not need to buy new items so often. Fewer items on the market would make consumers buy less as well. One participant talked about the planned economy when Lithuania was occupied by the Soviet Union (1944-1990) and how all products on the market were regulated. Not all participants seemed to remember, but they agreed that there was definitely less waste in those days.

"If we used fewer, low quality products, we'd also need to buy less. If we bought better tools, better household appliances: anything that would serve us longer, then we'd also need to buy less." (Lithuania FG2, P3)

Table 4.3.4 Ideas within the category 'policy' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Policy	Designate fund to scientific/ technological studies related to waste	Other	Other	☆☆☆☆☆☆☆☆☆

Policy	Create financial incentives for consumers related to all waste items that can possibly be returned for recycling, no concrete examples mentioned	Behaviour change	Consumers	☆☆☆
	Financially encourage (new, small) waste collection and waste processing business	Improve recycling	Producers	☆☆
	Legally restrict, control, discipline monopolists in their conduct to orient them towards a 'zero waste society'	Effect on planet/ Less use of resources	Producers	☆☆
	Less imports of lesser quality products (from China)	Less waste production/ Less use of resources	Consumers	☆

MANAGEMENT AND LOGISTICS

The idea that was given highest priority in this category is to set up buy-back locations for glass and plastic containers. This idea is closely related to the suggestion of financial incentives for consumers to recycle. At these buy-back locations, one should be able to hand in a certain item and get a direct refund in return. This should, first, encourage the public to stop throwing away containers and thus polluting the environment and, second, encourage others to collect thrown out containers and take them back to make money.

The idea that was given second highest priority is to 'computerise' education. This would save on paper as a resource and also on paper waste.

"[P4] Next, computerise educational institutions and all others, like for example, let's take the example of educational institutions, in each classroom we could have 30 pupils and there would be a computer each. I mean the classes change and so, just a person would sit down, enter their details, they can put their own information on the computer so they could see it, they wouldn't need to print it...
[P5] And you wouldn't need books either... Everything would be computerised." (Lithuania FG2)

Two more ideas were forwarded in this category, each receiving one priority sticker. The first is the introduction of vending machines where you can buy a product and use your own container or other packaging to take it with you. The second proposes a reorganisation of the waste management system to make it more effective, for example by reducing the number of middlemen and expansion of the network. Neither suggestion was further explained.

Table 4.3.5 Ideas within the category 'management and logistics' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Management/ Logistics	Set up buy-back locations for glass and plastic containers	Effect on planet/ Improve recycling	Consumers	☆☆☆☆☆☆
	Computerise education	Less use of resources	Consumers	☆☆

Buy drinks using your own bottle, or other products using your own container	Less packaging	Consumers/ Producers	☆
Reorganise waste management to be more effective, for example fewer middlemen and expansion of the network	Other	Waste management companies	☆

COMMUNICATION AND EDUCATION

The category of 'communication and education' groups ideas related to education, information and marketing (see table 4.3.6). Creating awareness and bringing about behavioural change are the main aims in this category. Educating people from a young age was proposed in all three focus groups and received highest priority overall. The participants considered that education at an early age has a lot of effect on people and that children will also affect their parents. This should cover proper waste management, but also the related values and attitudes.

"I brought up this idea because I got a very light, small, compact bag. I stick it in my purse, but you know what kind of remark I got from my daughter? Mom, are you going to go with that bag like a little old lady? That means that for young people – well an old lady takes a bag... So it's better, I ask, with a Maxima [supermarket] bag? – Yes, with a bag from Maxima you look more modern. So there's the mind of a child, not that a Maxima bag is fashionable – the attitude. I'm a thing of the past because I took a real bag. So they have to be educated from an early age." (Lithuania FG3, P9)

The same message on values and attitudes should also be taught to the public at large, according to the participants. Various ideas are proposed about how this can be achieved, for example by adverts on TV, special documentaries, authority figures taking a stance or information on the back of receipts or on carrier bags.

"Even then, we feel the need to reduce consumption, reduce containers, reduce packaging. We already use it, even where it doesn't need to be used. Yes, a lot of bags are used at shopping centres – we need to get out of that habit completely. Get used to using more reusable bags for products." (Lithuania FG3, P7)

Table 4.3.6 Ideas within the category 'communication and education' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Communication and education	Educate from a young age about all aspects of waste and make good conduct "fashionable" instead of dull, e.g. using a reusable carrier bag	Awareness of values, possibilities and negative effects/ Behaviour change	Consumers	☆☆☆☆☆☆☆☆☆☆☆
	(Re)educate the wider public: reduce consumption/containers/ packaging, reuse bags etc., for example with adverts on TV, movies, authority figures, info on the back of receipts from purchases, info on (paper/cloth) carrier bags	Awareness of values, possibilities and negative effects/ Behaviour change	Consumers	☆☆☆☆

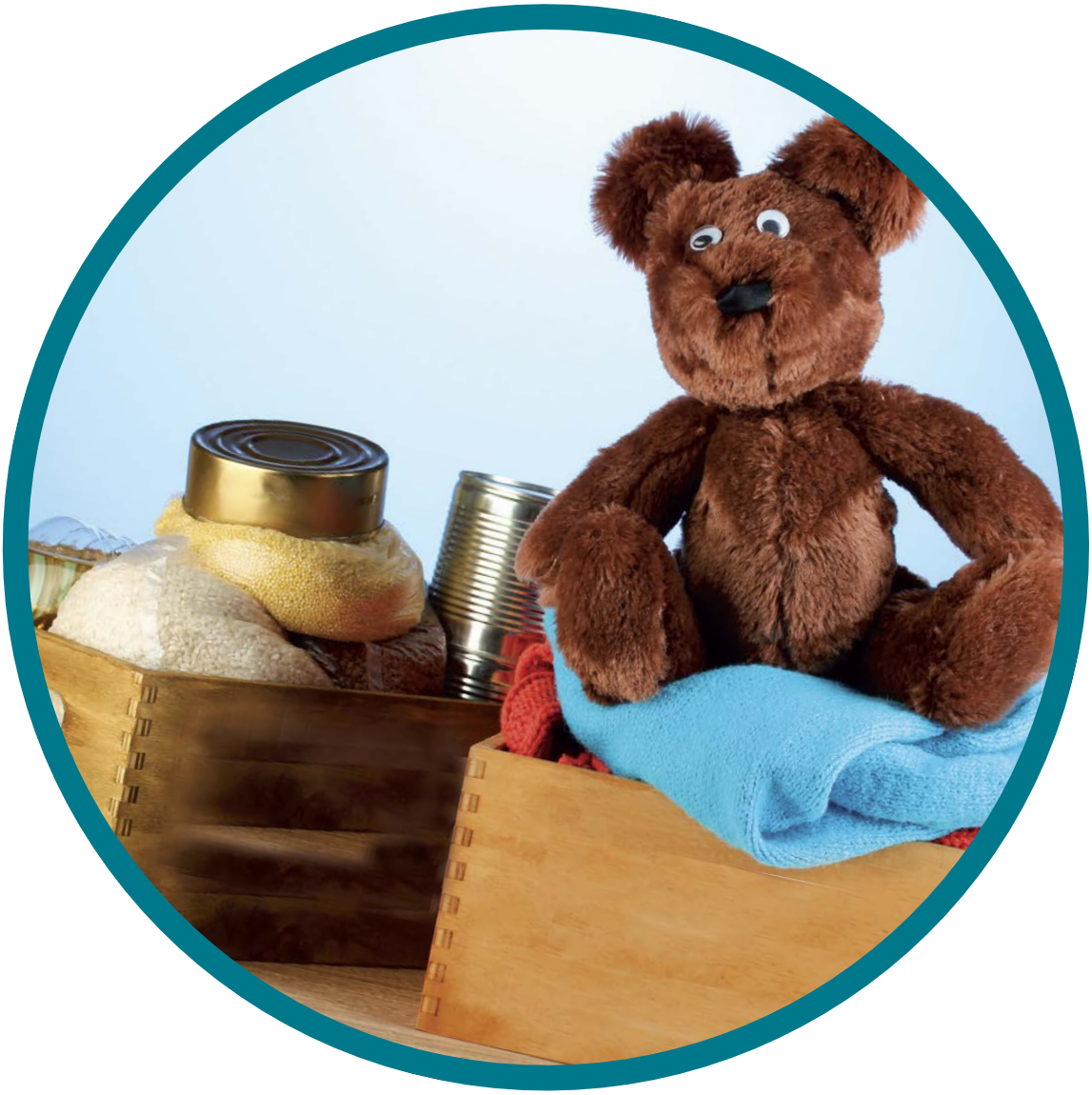
OTHER

The category 'other' groups ideas that are not related to municipal solid waste, but were proposed nonetheless and considered important by the participants. In two out of three focus groups, some discussions focussed on saving energy and using renewable energy sources. As a cluster, these ideas received the highest priority out of all ideas forwarded during the three focus groups. Another idea was to regulate purchases, making it obligatory to buy a certain percentage of ECO products.[13]

Table 4.3.7 Ideas within the category 'other' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Other	Energy/transport saving measures, for example promotion of public transport, introduce magnetic motors into everyday life, introduce geothermal heating systems, ecological fuel	Less use of resources/ Effect on planet	Other	☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆
	Regulate public consumption, acquiring a certain percentage of eco-products	Other	Consumers	☆☆

[13] The eco-label aims to promote products with a reduced environmental impact compared with other products in the same product group (more information on the eco-label in Europe see http://europa.eu/legislation_summaries/other/l28020_en.htm)



5. Conclusion, discussion and evaluation

This country report presents country-specific findings from citizen focus groups in Lithuania. It is part of a wider consultation process called VOICES, which involves almost one thousand European citizens across 27 EU member states in discussing the European research priorities for the theme 'Waste as a resource'. In most member states, three focus groups were conducted. The bigger member states held a total of six focus groups: three in each of two different locations. In Lithuania, as one of the smaller member states, three focus groups were held in total.

The overall aim of the VOICES project is to identify citizens' preferences, values, needs and expectations with respect to research priorities for the theme 'Waste as a resource'. This provides input for the Consolidation Group that will define the actual priorities for the next work programme on 'Urban Waste' (call SiS.2013.1.2.1-2). In addition, it provides the methodology, the tools, the know-how and recommendations that can be adapted and used in coming years for similar initiatives.

Below, we present the main findings of the focus groups in Lithuania. First, we focus on waste management, barriers and concerns. Next, we go into the ideas identified and prioritised by the focus group participants. We close with a short reflection on the methodology of the study.

5.1 Waste management, barriers and concerns

Lithuania ranks 25th on the EU27 ranking list on Municipal Solid Waste Recycling (MSW).[14] Since 2004, the recycling rate of MSW in Lithuania has slightly increased, but the overall recycling level is still particularly low. Even if the favourable recycling trend from 2006 to 2010 continues, it would require an exceptional effort to fulfil the 50% recycling target by 2020. Currently, no landfill tax is in place in Lithuania. A draft law on the introduction of a landfill tax has been prepared and that introduction of a landfill tax is planned when alternative treatment plants come into operation. These figures are reflected in the barriers and concerns that were voiced by the participants during the focus groups. Many concerns relate first and foremost to landfills and illegal dumping, given that these practices are most prominent in participants' daily lives. Indeed, findings from the Flash Eurobarometer survey 'Attitudes of Europeans towards resource efficiency' indicate that only 66% of all respondents from Lithuania indicated that they separate at least some waste (see Annex 2), against an average of 89% for the EU27.[15]

During the focus groups, several large clusters of barriers and concerns for dealing with waste appropriately were put forward. Related to production and prevention, concerns about the amount of (plastic) packaging, the ever-present plastic carrier bags in shops, and the shopping habits of current society were voiced in all focus groups. The practice of reuse becoming slowly abandoned was also a concern for several participants. Concerning management of waste in the household, the practicalities involved pose some barriers. Separating waste is perceived as quite a challenge due to a lack of space, as is the effort involved in cleaning and sorting with only minor support from the municipality or the waste management company. Next to these practical considerations, a lack of (financial) incentives to sort at home is also mentioned as a barrier by many participants.

Related to waste disposal and pathways, some barriers and concerns were focused on public collection bins and collection by the waste management company. Bins can be absent, too far, too small or misused and they are not always properly serviced, making it difficult for participants to get into a waste management routine. These results are consistent with the findings of the Eurobarometer which indicate that 80% of the respondents in Lithuania thought that improved separate waste collection at their home would convince them to separate and 81% thought that better waste collection services would improve waste management in their community.[16] Participants mentioned a lack of information, especially on recycling, both practical and regarding the importance of the practice, and a lack of financial incentives. Moreover, most participants mistrust the waste management company, and either think their sorted waste ends up on one big heap, or that the company makes money out of their labour during sorting.

Two major general concerns expressed by participants relate to the current system of waste management, namely environmental pollution and health risks. Illegal dumping, landfill and incineration are considered detrimental to both. Two related concerns about the waste management system and society as a whole are the careless attitude of the general public and the fact that nothing is being done about this by the government or the companies. The general public does not experience a sense of urgency and thus is hardly willing to put effort into waste management.

5.2 Ideas for achieving a 'zero waste society'

The results are divided into two main research domains, 'environmental sciences and technology' and 'policy, management and communication'. In the domain of 'environmental sciences and technology', ideas focus

[14] European Environment Agency (2013). "Managing municipal solid waste - a review of achievements in 32 European countries" EEA Report No 2/2013

[15] Flash Eurobarometer No. 316 - The Gallup Organisation (2011)

mainly on technology (machines and processes) to make waste management more convenient, to improve recycling and to reduce the impact on the environment. Most suggestions are concerned with a more effective way of dealing with waste and/or gaining extra benefits from it. Waste management companies and consumers are the main target groups, with producers following quite close behind.

In this domain, many ideas relate to waste management directly. The proposed technologies help to sort, process, disintegrate/decompose or reconstitute waste with an emphasis on increasing recycling, reuse and/or generating energy. Other ideas relate to the original product (before it becomes waste) and aim to reduce waste by making the (packaging) material recyclable and/or (bio)degradable or introducing new products that reduce waste by replacing others.

Ideas in the domain of 'policy, management and communication' circle mainly around regulations, incentives and communication to reduce (packaging) waste and the use of natural resources, foster awareness and change behaviour. Reducing the environmental impact and increasing the practice of recycling surface as dominant reasons behind these ideas. Consumers are the main target group, with producers and waste management companies approximately sharing a second place, and a few are directed at government.

Central regulation through diverse mechanisms seems to be a core feature of most solutions in this domain. It is generally felt that both waste management companies and producers should be better monitored, regulated and incentivised to improve their services, technology and products. In addition, the consumer should develop into a more waste-conscious citizen; recognizing waste management as an important aspect of society and acting accordingly. Educational programmes, public campaigns and more readily available information on recycling and/or reuse are thought to improve consumer behaviour in this respect.

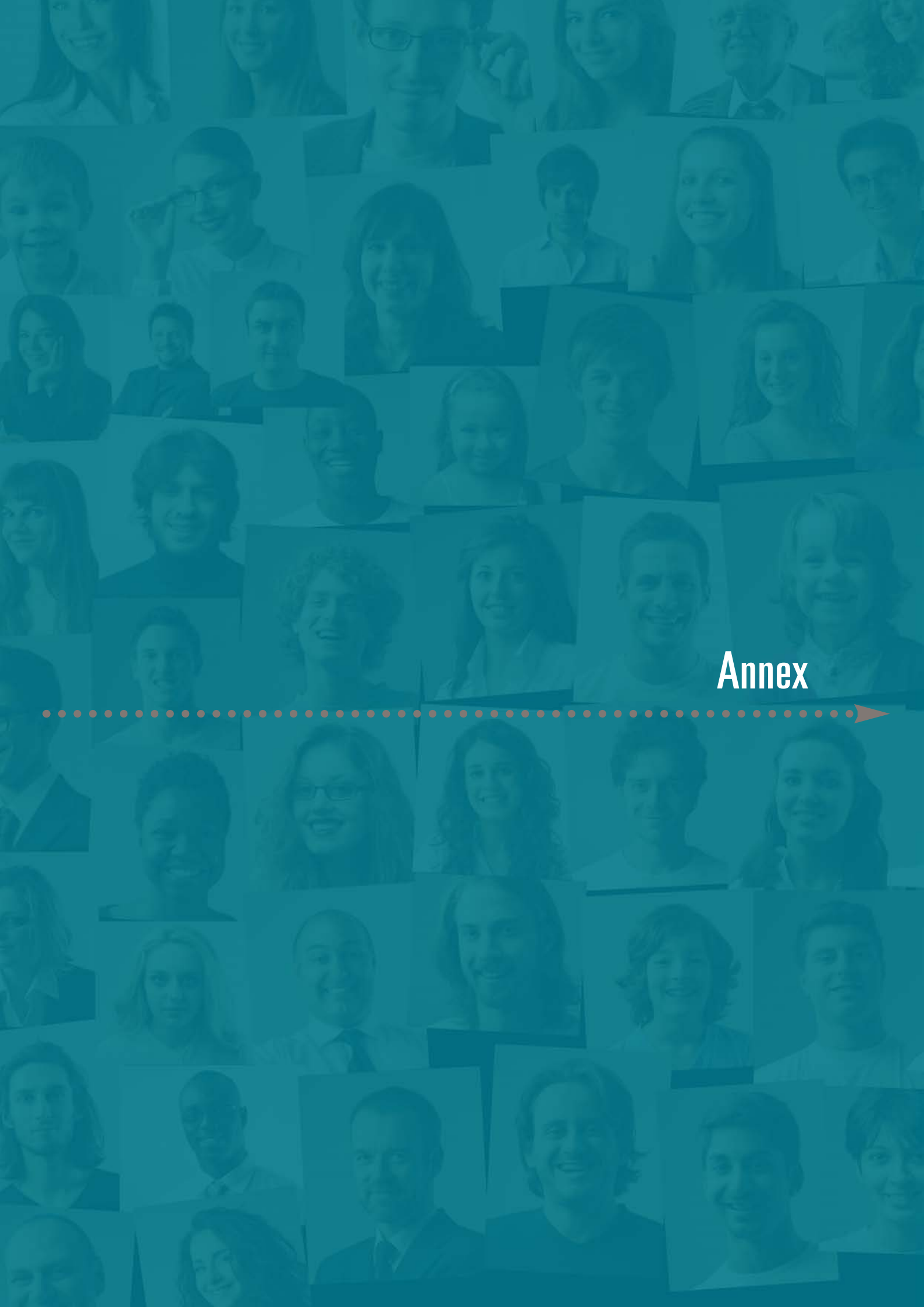
Although only rarely mentioned explicitly by the participants, in the domain of 'policy, management and communication', an important role for research is to determine which regulation, incentives or communicative measures would be cost-effective in accomplishing a certain aim.

Of the most highly prioritised ideas, the first is education about all aspects of waste from a young age (11 stickers). The second involves designating funds to scientific/technological studies related to waste (9 stickers). The third priority is shared between two ideas that received the same number of stickers (6): underground public waste bins connected directly to central heating system; set up buy-back locations for glass and plastic containers.

5.3 Reflection

The focus groups were effective in eliciting participants' preferences, values, needs and expectations concerning urban waste and innovation. The participants made an effort to carry out all of the assignments in earnest and were pleased with the event. They expressed interest in the topic and were happy to share their ideas.

[16] Flash Eurobarometer No. 316 - The Gallup Organisation (2011)



Annex

Annex 1: Full list of ideas for research and innovation, policy, management and communication

This table includes all ideas for research and innovation, policy, management and communication that emerged from the focus groups. For each research idea the research category is mentioned, as well as the aim of the research and the proposed target group. In addition, the priority of the research idea as perceived by the participants is indicated in the tables, using stars to indicate the number of stickers assigned to a specific idea by the participants.

ENVIRONMENTAL SCIENCES AND TECHNOLOGY

Category	Idea	Aim	Target Group	Priority
Technical/ Physics/ Chemical/ Engineering	Underground public waste bins connected directly to central heating system direct incineration	Effective use of waste	Waste management companies	☆☆☆☆☆ ☆
	Recycling device that does not require prior sorting	Improve recycling/ Convenience in the home	Consumers/ Waste management companies	☆☆☆☆☆
	A machine that separates all waste based on the different melting points of the various components	Improve recycling	Consumers/ Waste management companies	☆☆
	Collection containers that crush waste (for example plastic bottles) to a smaller size	Convenience in the home	Consumers/ Waste management companies	☆☆
	A robot on household level that processes waste into cash	Convenience in the home	Consumers	☆☆
	Improvement of technology for using gas from landfills to procure heat	Effective use of waste	Waste management companies	☆☆
	Scanning device that tells you were to put an item when it is waste, possibly installed next to the collection containers	Improve recycling/ Convenience in the home	Consumers	
	Washing machines that washes without washing powder/liquid	Less use of resources	Consumers	
	Send waste to another planet (Mars or Jupiter)	Eliminate waste	Waste management companies	
	Build in recycling containers, connected to a system that destroys the waste directly	Convenience in the home/ Improve recycling	Consumers	
	Device to create new items from waste (old tyre becomes a shoe)	Effective use of waste	Consumers/ Producers	
	Technology to chemically disintegrate plastic	Eliminate waste	Consumers/ Waste management companies	
	Cigarettes without filter	Less waste production	Producers	
Material	Manufacture things from organic material	Effect on planet	Producers	☆☆☆
	Manufacture things from recycled materials	Less use of resources	Producers	☆☆
	Edible packaging material	Less waste production	Consumers	☆☆

	Materials that cannot harm/pollute the environment	Effect on planet	Producers	
	Material that can easily be recycled	Improve recycling	Producers/ Consumers	
Bio(techno)-logical	No ideas came forward			
ICT	Program, app or webpage,to point you to the nearest recycling centre	mprove recycling/ Convenience	Consumers	☆

POLICY, MANAGEMENT AND COMMUNICATION

Category	Idea	Aim	Target Group	Priority
Policy	Designate fund to scientific/ technological studies related to waste	Other	Other	☆☆☆☆☆ ☆☆☆☆
	Create financial incentives for consumers related to all waste items that can possibly be returned for recycling, no concrete examples mentioned	Improve recycling/ Behaviour change	Consumers	☆☆☆
	Financially encourage (new, small) waste collection and waste processing business	Improves recycling	Producers	☆☆
	Legally restrict, control, discipline monopolists in their conduct to orient them towards a 'zero waste society'	Effect on planet	Producers	☆☆
	Less imports of lesser quality products (from China)	Less waste production/ Less use of resources	Consumers	☆
	Financial incentives for companies/offices that recycle, like lower taxes, lower ground rent, other exemptions	Improve recycling	Producers	
	Make ecological carriers bags in shopping centres less expensive instead of more than plastic ones	Less plastic	Consumers/ Producers	
	Regulate recycling on a national level, eliminating the differences between municipalities	Improve recycling	Government	
	Governmental involvement in waste management it should not be the concern of a private business owner completely	Other	Government/ Waste management companies	
	Charge for waste management based on weight instead of the size of the apartment	Other	Consumers/ Waste management companies	
	Ban plastic carrier bags from shopping centres by law	Less plastic	Producers	
	Plastic carrier bags should not be forced upon customers for advertising purposes	Less plastic	Producers	
	Items should not be double packaged or more products in one package	Less packaging	Producers	
	Use higher quality packaging material (not plastic) that is worth something afterwards, for example aluminium	Effective use of waste	Producers	
	Introduce taxes on plastic	Less plastic	Consumers/ Producers	

Management/ Logistics	Set up buy-back locations for glass and plastic containers to motivate the public to stop throwing away containers and thus polluting the environment, and motivate others to collect thrown out containers and take them back to make money	Effect on planet/Improve recycling	Consumers	☆☆☆☆☆ ☆
	Computerise education	Less use of resources	Consumers	☆☆
	Buy drinks using your own bottle, or other products using your own container	Less packaging	Consumers/ Producers	☆
	Reorganise waste management to be more effective, for example fewer middlemen and expansion of the network	Other	Waste management companies	☆
	Mobile recycling bins, positioned at an office for a (few) day(s) for people to put their recyclables in	Improve recycling	Consumers	
	Introduce a point system related to recycled or waste/resource saving items person with the most points gains a prize	Improves recycling/ Less use of resources/ Behaviour change	Consumers	
	Improve recycling centres and waste infrastructure in general so that people do not prefer to avoid these spots all recyclables should be accepted, enough bins, no smell, no access for tramps, etc.	Improve recycling/ Behaviour change	Consumers/ Waste management companies	
	Develop production processes as a closed cycle, "waste" feeds back into the process	Less waste production/ Less use of resources	Producers	
	Replace paper with electronics in communications	Less waste production	Producers	
	Motivate people to buy responsible carrier bags, for example you can return it when it is worn and get a new one for free or some bonus when you buy two bags	Behaviour change/ Less plastic	Producers/ Consumers	
	Adopt good practices from other countries in Europe	Other	Government/ Waste management companies	
Communication and education	Educate from a young age about all aspects of waste and make good conduct "fashionable" instead of dull, e.g. taking a reusable carrier bag	Awareness of values, possibilities and negative effects/ Behaviour change	Consumers	☆☆☆☆☆ ☆☆☆☆☆ ☆
	(Re)educate the wider public: reduce consumption/containers/ packaging, reuse bags etc., for example with adverts on TV, movies, authority figures, info on the back of receipts from purchases, info on (paper/cloth) bags	Behaviour change/ Awareness	Consumers	☆☆☆
	Raise consciousness about consumption through improved education and information	Awareness of values	Consumers	☆
	Make good conduct (recycling) by companies publicly known through advertising	Behaviour change/ Awareness	Producers	

Communication and education	Provide info, labels or otherwise, on collection containers to draw attention to their function	Awareness of possibilities	Consumers	
	General communication of the government to the public about introduction of new technologies related to waste management	Awareness	Consumers	
	Special education for high ranking officials, including an exam about ecology or a "traineeship" as a shepherd	Awareness	Government	
Local initiatives	Organise "stuff exchange" on a frequent basis, e.g. once a week	Less use of resources	Consumers	
	Organise practical support through the municipality, for example support communal collection initiatives by providing a truck to gather the collected waste or provide a (free or affordable) truck to transport building debris	Other	Government	
Other	Energy/transport saving measures, for example promotion of public transport, introduce magnetic motors into everyday life, introduce geothermal heating systems, ecological fuel	Less use of resources/ Effect on planet	Other	☆☆☆☆☆ ☆☆☆☆☆ ☆☆☆☆☆ ☆☆☆☆
	Regulate public consumption, acquiring a certain percentage of eco products	Effect on planet	Consumers	☆☆

Annex 2: Attitudes of citizens from Lithuania towards resource efficiency

The data in this annex is based on the Flash Eurobarometer No. 316 - The Gallup Organisation (2011). The primary objective of the Flash Eurobarometer survey 'Attitudes of Europeans towards resource efficiency' (Flash No. 316) was to gauge EU citizens' perceptions, attitudes and practices concerning resource efficiency, waste management and recycling. In detail, the survey examined:

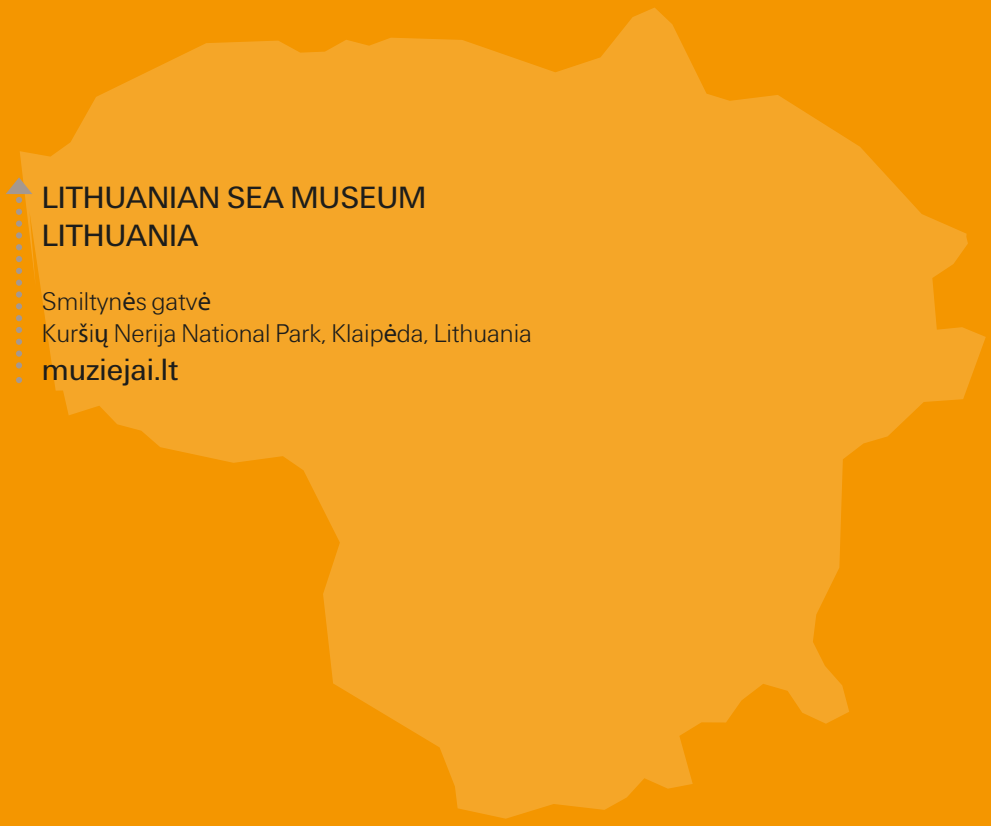
- citizens' perceptions of Europe's efficiency in its use of natural resources
- the amount of waste EU households produce and whether they separate that waste for recycling or composting
- preferred actions to improve EU households' and communities' waste management
- citizens' views on how to pay for waste management
- EU households' food waste production and preferred ways of decreasing that waste
- citizens' perceptions of the importance of a product's environmental impact when making purchasing decisions
- citizens' willingness to buy second-hand products and products that are made of recycled materials.

The survey obtained interviews - fixed-line, mobile phone and face-to-face - with nationally representative samples of EU citizens (aged 15 and older) living in 27 Member States. The target sample size in all countries was 1,000 interviews. Below we give the results from Lithuania.

Question	Answer	%	EU27 Average
Do you think Europe could be more efficient in its use of natural resources?	Yes	80%	87%
	No	15%	5%
	DK/NA*	5%	8%
Do you think that your household is producing too much waste or not?	Yes	31%	41%
	No	64%	58%
	DK/NA*	5%	1%
Do you separate at least some of your waste for recycling or composting?	Yes	66%	89%
	No	33%	11%
	DK/NA*	1%	0%
What initiatives would convince you to separate (more) waste?	More and better drop-off points for recyclable and compostable waste	75%	76%
	Improve separate waste collection at your home	80%	67%
	More information on how and where to separate waste	67%	65%
	Legal obligation to separate waste	60%	59%
	Taxes for waste management	56%	39%
What initiatives would improve waste management in your community?	Better waste collection services	81%	70%
	Stronger law enforcement on waste management	65%	65%
	Make producers pay for collection and recycling of waste	66%	63%
	Make households pay for the waste they produce	44%	38%
Which one would you prefer: to pay taxes for waste management or to pay an amount related to the quantity of waste your household generates?	To pay taxes for waste management	31%	14%
	To pay proportionally to the quantity of waste you generate	54%	75%
	DK/NA*	15%	11%

Which one would you prefer: to pay taxes for waste management or to include the cost of waste management in the price of the products you buy?	To pay taxes for waste management	43%	25%
	Include the cost of waste management in the price of the products you buy	34%	59%
	DK/NA*	23%	16%
Can you estimate what percentage of the food you buy goes to waste?	None	19%	11%
	15% or less	55%	71%
	16% to 30%	17%	13%
	More than 30%	7%	4%
	DK/NA*	2%	1%
What would help you to waste less food?	Better estimate portion sizes (how much food you cook) to avoid excess food	62%	62%
	Better information on food product labels, e.g. how to interpret "best before" dates, information on storage and preparation	67%	61%
	Better shopping planning by my household	72%	58%
	Smaller portion sizes available in shops	54%	58%
How important for you is a product's environmental impact - e.g. whether the product is reusable or recyclable - when making a decision on what products to buy?	Very important	24%	39%
	Rather important	36%	41%
	Rather not important	20%	12%
	Not at all important	13%	6%
	DK/NA*	7%	2%
Are you willing to buy second-hand products?	Yes	67%	68%
Base: all respondents, % of yes			
Would you buy the following products second hand?	Furniture	51%	56%
Base: all respondents, % of yes	Electronic equipment	38%	45%
	Textiles (clothing, bedding, curtains, etc)	46%	36%
What reasons prevent you from buying second-hand products?	Quality/usability of the product	58%	58%
	Health and safety concerns	46%	50%
	Less appealing look of the product	25%	25%
	Afraid of what others might think	4%	5%
Would you buy products made of recycled materials?	Yes	51%	86%
	No	36%	11%
	DK/NA*	13%	3%
What would be the most important factors in your decision to buy products made of recycled materials?	Quality/usability of the product	62%	51%
	Environmental impact of the product	20%	26%
	Price of the product	16%	18%
	Brand/brand name of the product	0%	2%
	DK/NA*	2%	3%
What prevents you from buying recycled products or products containing recycled materials?	Health and safety concerns	58%	44%
	Quality/usability of the product	41%	42%
	No clear consumer information on the recycled product	46%	32%
	Less appealing look of the product	17%	17%
	Afraid of what others might think	14%	5%

*Abbreviation DK/NA = Don't know / No Answer



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VOICES, CITIZEN PARTICIPATION IN SOCIAL INNOVATION

VOICES is a Europe-wide citizen consultation process, led by Ecsite, the European network of science centres and museums, which helps set the agenda for the environmental research dimension of Horizon 2020 - the European Union's strategy to advance research and innovation.

VOICES represents a valuable insight on methods and procedure for engaging citizen participation to inform Europe's Responsible Research and Innovation framework. Focus groups, academic analyses of public consultations and dissemination of results will lead to an effective method through which to consult the public on science and technology related issues.

VOICES is engaging citizens in 27 EU countries through science centres and museums - all of which are expert, impartial and powerful partners in public engagement with science as members of Ecsite.

One thousand European citizens have joined VOICES focus group discussions on innovative uses and solutions for urban waste. The outcomes of this European consultation process are presented in the VOICES Reports Collection.

VOICES for innovation

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