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Views, Opinions and Ideas of Citizens in Europe on Science

COUNTRY REPORT SLOVAKIA

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PUBLISHER

Ecsite - the European network of science centres and museums
89/7, Avenue Louise
B-1050, Brussels
Belgium
info@ecsite.eu

AUTHORS

Kupper, F., Schrevel, S.J.C., Van der Ham, L. and Broerse, J.E.W. (Athena Institute, VU University Amsterdam)

RESEARCH TEAM

Prof.dr. Jacqueline E.W. Broerse (M.Sc.); Dr. Frank Kupper (M.Sc., M.A.); Dr. Janneke E. Elberse (M.Sc., M.A.); Lia van der Ham (M.Sc.); Barbara M. Tielemans (M.Sc.); Wanda S. Konijn (M.Sc.); Anna van Luijn (M.Sc.); Fiona Budge (M.Sc.); Tirza de Lange (M.Sc.); Durwin H.J. Lynch (M.Sc.); Marzia Mazzonetto (MAS); Willemijn M. den Oudendammer (M.Sc.); Inge Schalkers (M.Sc.); Samuel J.C. Schrevel (M.Sc.); Dr. ir. Rianne Hoopman (M.Sc.); Samuel Ho (M.Sc.); Sarah Cummings (M.Sc.); Rylan Coury (B.Sc.)

EDITORS

Marzia Mazzonetto and Luisa Marino, Ecsite
Francesca Conti, Tatiana Crisafulli and Elisabetta Tola, formicablu Srl
Michael Creek, free-lance

DESIGN/DTP

Teresa Burzigotti, formicablu Srl

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

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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 Slovakia, 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 - Slovakia

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, Slovakia is one of the smaller EU countries with approximately 5.4 million inhabitants. Half of the inhabitants live in rural areas (50%), while others live in urban areas (12%) and intermediate areas (38%).

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

		2011	
Population at 1 January		5 392 446	
Population as percentage of EU27		1.1%	
Gross Domestic Product (PPP)		18 400 Euro	
Population urban-rural typology	Urban	629 000	12%
	Intermediate	2 077 000	38%
	Rural	2 729 000	50%

3.2 Factsheet on waste

The amount of municipal waste generated and treated in Slovakia is considerably lower than the average amount of waste treated in the EU27. Slovakia ranks 24th on the EU27 ranking list on Municipal Solid Waste Recycling (MSW). The total recycling rate of MSW in Slovakia is still very low. According to present trends, an exceptional effort will be required to meet the EU Waste Framework Directive's target to recycle 50% of MSW by 2020.[9]

Table 3.2 Municipal Waste[10,11]

		Slovakia		EU27 average	
Municipal waste generated (kg per person)		333 kg		502 kg	
Municipal waste treated (kg per person)		322 kg		486 kg	
Municipal waste treated	Landfilled	261 kg	81%	185 kg	38%
	Incinerated	32 kg	10%	107 kg	22%
	Recycled (material recycling)	13 kg	4%	122 kg	25%
	Composted (organic recycling)	16 kg	5%	73 kg	15%

3.3 Composition of the focus groups

In Slovakia three focus groups (FGs) took place on the weekend of 23rd March 2013. They were held in Bratislava, moderated by Petra Zemanova, Focus Group Moderator, PPM Factum Research/ACRC.

In total 30 people (15 male and 15 female) participated in the three FGs. The age of the participants ranged from 19 to 64; 10 participants were aged between 18 and 35, 10 between 36 and 50 and 10 were aged 51 or over. Educational levels were diverse with 10 participants with a high level of education, 13 of an intermediate level and 7 of a low level. 19 participants were working, while 6 were unemployed, 2 were students and 3 were retired. 18 participants live in a house and 12 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	5	5	5	15
	Female	5	5	5	15
Age	18 - 35	10	0	0	10
	36 - 50	0	10	0	10
	50+	0	0	10	10
Education	High	4	3	3	10
	Medium	4	4	5	13
	Low	2	3	2	7
Employment	Unemployed	2	2	2	6
	Employed	6	8	5	19
	Retired	0	0	3	3
	Student	2	0	0	2
Housing	Flat	4	4	4	12
	House	6	6	6	18

[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 Slovakia. 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

The vast majority of the participants explained they separate food, glass, plastic, paper, clothing and residual waste. Food waste is mostly fed to animals or given to friends to feed to their animals, or is disposed of on a private compost heap or as general waste. In general, participants living in villages or in houses separate food waste, whereas participants living in urban regions or apartment blocks put food waste in the general waste bin. In some instances, there are separate coloured bins for those waste streams. One participant explained that even oil has to be separated.

Paper was handled in various ways. Some participants dispose of it; while others use it in the fireplace. For furniture: the majority of participants pass it on to friends or family, but some participants explained they chop up and burn old furniture in their stoves.

4.1.2 Waste collection

Many participants explained that paper was brought to schools. They did not discuss what happens after that, but one participant explained that it is returned somewhere for money and that the money would go to charity. Another participant explained that there is a special campaign a few times a year where paper is collected. Other forms of paper collection are also present. For example, one participant explained he turns in old paper in exchange for toilet paper.

[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.

For plastics, participants had various stories. In one community, there is a special room assigned in the town hall where plastic can be brought. In other villages, citizens are given special bags that can be left on the street and are collected once every two weeks. However, one participant explained that in her village she has to get the plastic bags herself:

> *"We have a separate bag for that too, but it's not the town that gives us that, we have to [get it] ourselves." (Slovakia FG2, P4)*

Clothes and furniture were passed on to friends or family, according to the majority of discussions. However, some participants mentioned they bring clothes and toys to charity organisations that organise collection campaigns, or put it in designated charity bins.

Old household appliances are most frequently brought to special sites where they can be returned. However, some participants mentioned that there are other possibilities as well. For example, one participant explained that the company bringing a new appliance sometimes exchanges it for the old one. Another participant mentioned that every now and then, people can put their appliances in front of their house and a lorry will collect it.

Chemical waste and medicines are usually taken back to pharmacies or shops. One participant explained that every shop that sells electronics automatically has a separate bin for returning empty batteries. Old lamps can also be taken to electricity shops.

4.1.3 Knowledge about waste pathways

In general, participants' knowledge level on urban waste pathways was low. Most of the participants guessed that their waste will either be recycled somewhere, end up at landfill or be incinerated. It is commonly assumed that general waste ends up at landfill or incinerators whereas separated waste is recycled. One participant clearly stated he knows that plastics are recycled. A notable remark made in the focus groups is that large campaigns are organised in communities for people to hand in separated waste and thereby support charity organisations. The idea is that the waste is sold to processing companies.

4.1.4 Waste management behaviour and convenience

The vast majority of participants explained that they separate at least some forms of waste and most participants mentioned they separate according to the regulations. Two convenience issues were mentioned that could possibly discourage waste separation behaviour. The most frequently voiced reason was that waste bins were not emptied frequently enough. People then put waste by the side of the bin or throw recyclable waste in the general waste bin. A second topic, mentioned by the minority of participants that live in apartment blocks, is the space needed for waste separation. Lack of space can become a nuisance, especially when waste collection is not frequent.

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 three 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.

4.2.1 Waste prevention and production

Two topics were discussed in this category; the most frequently and thoroughly discussed topic was the amount of packaging that is used. Participants explained that goods are needlessly wrapped in multiple layers of plastics. In relation to packaging, many participants said that plastic bags are distributed everywhere which produces an unnecessary amount of plastic waste.

> *"When I go to a store, it is wrapped, already complete, for example a cream is in a good... really, in a plastic or in a small box, still there is a larger box and when I go from the store, they push me to take a plastic bag, and I really don't need it." (Slovakia FG3, P 1)*

Additionally, some participants noted that people become lazy thanks to this and stop bringing their own bags or using cardboard boxes to take groceries home.

The second topic was only discussed in one focus group and concerned the production of low-quality goods that break down fast. According to the participant that put it forward, this is because of the way demand and supply are structured:

> *"I think that lots of low-quality things are being made, and then one [has something] that instead of five years lasts one year, so that people have jobs, the way I see it, production must go on, and so things must keep being disposed of someplace [...]." (Slovakia FG 1, P 7)*

Other participants added to this that in the past, machines would last at least 15 years, so that it was worth it to bring machines to repair shops when something broke down. Nowadays, however, repairs are so costly that it is usually cheaper to buy new goods.

4.2.2 Waste management in the household

In this category, three topics were mentioned. Firstly, various participants mentioned that for waste separation a lot of space is needed in the home. This was considered a problem, especially for citizens that live in apartments. One participant explained that plastic bottles in particular can take up a lot of space.

The second topic is related to the first one, as one participant explained that nowadays people need to sort many more different forms of waste then in the past which, in turn, takes up a lot of space:

> *"Just take the kinds of waste, that's really a lot. Long time ago, there was glass and the rest... those were the categories. Now there's plastics, there's paper and now we're starting with electronics... If I had a house, which I don't for now... I'd be able to find room, but in a flat, it's quite a problem to make a big enough bin for, let's say, a family of five. The balconies are small. Where would I keep plastic bottles? When that space fills up, it's nearly half a square meter." (Slovakia FG 1, P 10)*

A third recurrent issue was citizens' lack of awareness and motivation. Many participants discussed that people in general are not concerned enough with waste or are simply lazy and therefore do not separate it and dispose of it in the general waste bin. A lot of people lead busy lives and are continuously in a hurry, which also prevents them from separating waste:

> *"Yes, I work all day from morning to evening and I come home in the evening and still I have to sort, still that, to still carry it, and then when I don't collect this garbage, it smells, gets old, it doesn't go even for the next day, so it is simpler to throw it out." (Slovakia FG3, P2)*

4.2.3 Waste disposal and pathways

This category contained the most often occurring and most thoroughly discussed topics about the barriers and concerns regarding urban waste management. The most frequently discussed topic was citizens' attitudes towards waste disposal – their perceived lack of awareness. As well as peoples' attitudes, which one partici-

pant sometimes referred to as "human nature", participants explained that external factors put people off separating waste.

One of the factors put forward was that recycle bins are always full or there are simply no bins in the neighbourhood. The resulting failure to separate waste is reinforced by fines that are given to people when they leave waste next to the full waste bins. In this sense, government policy puts people off properly separating and disposing of waste:

> *"My neighbour took down a box with some paper. Things were full, so he put it on the side. There was his address, some envelopes, what a fool not to tear them up, and so, someone reported him for making a mess. Later, a city policeman arrived and fined him... do you think he'll ever leave stuff there again? So actually the state authorities put people off." (Slovakia FG 1, P 7)*

As well as the issue of full recycle bins and the resulting fines, participants also discussed various financial implications of waste disposal. Participants reported that fees are required to bring waste to some disposal sites. Additionally, some participants mentioned that there are no longer incentives to separate waste. For example, one participant explained that at one time, elderly people could turn in waste and receive toilet paper, but these arrangements are gone. These measures were discussed as demotivating factors regarding waste disposal.

A second theme that was discussed frequently is the illicit or careless dumping of waste. According to the participants, this was mainly related to people's laziness and indifferent attitude towards waste. For example, one participant explained that in airports people carelessly throw waste on the floor because they know that cleaning personnel will clean it anyway. Additionally, costs for disposing of waste were mentioned as a strong motivator for people to just drive into the woods and dispose of their waste there.

In relation to this topic, another concern was brought up by many participants: the lack of awareness regarding waste management, waste pathways and the effects of waste processing on the environment and human health. Participants discussed that it sometimes is difficult to get all the information concerning what types of waste to bring where. They also worried about the toxic effects of waste in landfills and the incineration of waste.

In addition to the aforementioned topics, some unrelated concerns or barriers were brought up during focus groups. One participant complained that recycle bins for paper were impractical, because cardboard boxes full of paper cannot fit into them. Another participant mentioned that a car is needed in some places to bring old household appliances to the disposal site. And finally, one participant mentioned there are problems with Roma gypsies that go through all the waste to look for parts that can be sold, leaving the neighbourhood with rubbish scattered over the streets.

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

TECHNICAL, PHYSICAL, CHEMICAL, ENGINEERING

In this research domain, the highest prioritised idea concerned extending the lifespan of household appliances by producing higher quality goods. This idea was proposed in two focus groups. Participants explained that it would decrease the use of glass and plastics and decrease the general trend of consumerism, at least if accompanied by a change in lifestyle:

> *"Actually we had reducing primary consumption on the basis of higher quality products, but that's again more like a change in lifestyle." (Slovakia FG2, P2)*

In second place, participants explained that a household appliance could transform waste into useable objects or materials. For example, one participant explained that benches could be made from moulded plastic bottles. A second idea, although much lower ranked in priority, was the use of nano-robots to change waste into usable materials:

> *"I mentioned those nano-robots, there would be parts or atoms which would be controlled and therefore we would bring packaging so that packaging could be changed, using some electrical explosion somewhere, let's say, into a plate, so it could be eaten." (Slovakia FG2, P1)*

In relation to the ideas above, participants in two focus groups discussed ways to turn waste back into its raw materials. For example, plastic is produced from crude oil, so it should be possible to turn it back into oil. These raw materials could then be reused in the production of new material and goods.

In third place, participants ranked household incinerators for waste. The heat produced by the incinerator should be used to heat water for showers, for example. Additionally, one participant added that the incinerator should not emit polluting compounds. Related to this idea, although ranked lower priority, was the further development of incineration techniques. According to the participants, incinerators should not emit polluting compounds but process and reuse them:

> *"So somehow improving those technologies, so that those residues which are created during incineration are somehow captured and then they could be neutralised somehow or somehow reused." (Slovakia FG2, P7)*

Finally, there were two unrelated ideas that were prioritised but not thoroughly discussed during the focus groups. Firstly, one participant mentioned a "wishing table" so that there will no longer be any waste. Secondly, one participant proposed a rocket to shoot waste into space. When it leaves the Earth's atmosphere, the rocket should disintegrate with the waste inside it.

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	Extending the lifetime of goods by producing higher quality goods	Less use of resources	Producers	☆☆☆☆☆☆☆☆
	A machine that turns waste into useable products	Effective use of waste	Consumers	☆☆☆☆☆
	A wishing table so there won't be any waste	Other	Undefined	☆☆☆☆☆

Technical/ Physics/ Chemical/ Engineering	Home incinerators for waste, without the emission of pollutants, and use the heat for in house heating	Convenience in the home/ Effective use of waste	Consumers	☆☆
	Turn waste back into its raw materials	Less use of resources	Waste management companies	☆☆
	Build a rocket that will disintegrate with the waste in it	Eliminate waste	Other	☆☆
	New incineration techniques that are less polluting and neutralise residues which can then be used	Effective use of waste/ Effects on planet	Waste management companies	☆
	Nano robots that can transform materials from one into another	Effective use of waste/ Less use of resources	Consumers/ Producers	☆

MATERIALS

In the research domain of material, the idea ranked highest priority, and most frequently discussed, was the production of materials that are rapidly degradable. In one focus group, participants explained that materials should be rapidly biodegradable. For example, plastic bottles should be made biodegradable so that participants can bury them in the garden and do not need to dispose of them in a bin:

> *"If for example at home I had 35 bottles and I know that in the garden it biodegrades in a half a year, then I would feel free to put it into the garden." (Slovakia FG3, P5)*

In the second highest priority idea, participants said packaging materials should be self-liquefying so that they will disappear after a set time. This idea was not further elaborated on.

Three more ideas emerged from the focus groups which were ranked with some degree of priority. First, participants discussed the production of edible packaging. Packaging materials could then be produced in such a way that they could be fed to animals by using natural materials. The other two ideas were only put forward and not discussed in more detail. One group of participants proposed that bottles should be recyclable; and another group mentioned that tickets should turn into sweets or chocolate after a set time.

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

Category	Idea	Aim	Target Group	Priority
Material	Scientists should focus on the production of rapidly degradable packaging and bottles	Effects on planet	Producers	☆☆☆☆
	Self-liquefying packaging that will vaporise after a set time	Less waste production	Consumers	☆☆☆
	Produce edible packaging	Less waste production	Consumers/ Producers	☆☆

Make recyclable glass bottles	Improve recycling	Producers	☆☆
Tickets that turn into sweets or chocolate	Less waste production	Consumers/ Producers	☆☆

BIO(TECHNO)LOGY

The only idea in this category ranked as priority concerned the production of packaging materials that are soluble in water and that bacteria could be created to cleanse the water from the dissolved materials:

"That's not a bad idea, that in the plastic of the bottle... maybe with new technologies that would be invented, that there would be, let's see, a kind of bacteria encased that would filter the water after the dissolution." (Slovakia FG 1, P 10)

Table 4.3.3 Ideas within the category 'bio(techno)logical' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Bio(techno)-logical	Make materials soluble in water and create bacteria to filter out the useful compounds	Improve recycling	Waste management companies	☆☆☆☆☆☆☆☆

4.3.2 Policy, management and communication

POLICY

In this category, ideas are discussed that focus on policy measures to manage waste or waste production more effectively, usually involving regulations and incentives. The idea of one group of participants was prioritised highest and revolved around balancing profits that are made by both production and waste management. The participants explained that decreasing production of packaging is not a valid solution, because the producers of packaging would then go bankrupt. Production of goods and waste production are interrelated. In order to control waste production, money flow should be balanced between production and waste processing:

"[...] simply, everyone must live from something, but that money earned from this production so [...] this great profit must be given as well for the processing of waste." (Slovakia FG3, P 1)

In this way, producers are made responsible for the waste they produce.

The second highest ranked idea in the policy category was that the Slovakian government should focus more on domestic production. It was explained that with domestic production, less packaging might be needed.

Three further ideas were given one priority sticker. These ideas all revolved around financial methods to encourage people and producers to manage waste in a more sustainable way. Several participants suggested that there should be stricter regulations for waste separation and fines for those who do not follow them. National governments should also be able to monitor and fine municipalities if they do not follow laws regarding waste management. Some participants mentioned that producers, as well as citizens, should be held responsible for waste:

"[...] likewise, companies should be motivated and demotivated by what they produce and how they produce and how much waste they can reduce every year." (Slovakia FG2, P 1)

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

Category	Idea	Aim	Target Group	Priority
Policy	Balance economic profits for production of goods and disposal of waste	Other	Producers/ Waste management companies	☆☆☆☆☆☆☆
	Focus on domestic production, become self-sufficient as a country, and consume only what is necessary	Local production/ Less waste production	Consumers	☆☆
	Stricter regulations and fines to improve separation and recycling behaviour	Behaviour change/ Improve recycling	Consumers	☆
	Fines for people that do not separate waste	Behaviour change	Consumers	☆
	Change policy so that both individuals and companies can be held responsible	Other	Consumers/ Producers	☆

MANAGEMENT AND LOGISTICS

Ideas that refer to waste management or waste pathways are categorised in this domain. The highest prioritised idea proposed that instead of using paper administration, everything should be digitalised. For example, many tasks can be handled by mobile phone instead of using paper tickets or bills.

The second idea was that waste, or the output from waste incineration, can be used for various purposes. For example, waste can be used to design ornamental structures. Or, as one participant explained, in Austria the products of incineration are used as subsoil for roads:

> *"The Austrians export it nicely for roads and with it they make the subsoil for roads. I made it personally, so I know where it was exported in our country and where the Austrians export it." (Slovakia FG3, P8)*

In the third-highest priority idea, participants elaborated on ways to use less packaging and less plastic bags. In two focus groups, participants discussed that, in general, less wrapping should be used and it should be biodegradable. In another focus group, it was mentioned that we should not use unnecessary layers of wrapping and plastic bags. These notions, however, were not thoroughly reflected on during focus groups.

Two other ideas were put forward with no further detailed discussion. In one focus group, it was stated that there should be more incinerators to increase waste processing capacity and that these incinerators should not emit polluting compounds. In another focus group it was mentioned that bins or recycle centres should be more visible. It was argued that these things should be designed better:

> *"But this means that, it's also up to the design a bit, because if I paint an ugly box yellow, then there might be a problem from the point of design, so you'd need to think it through a bit." (Slovakia FG 1, P 10)*

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

Category	Idea	Aim	Target Group	Priority
Management/ Logistics	In administration, digitalize more so that less paper will be used	Less waste production	Other	☆☆☆☆
	Use waste for the production of roads or for ornamental purposes	Effective use of waste	Waste management companies/ Producers	☆☆☆
	More recycling centres and incineration plants, without the production of pollutants	Effects on planet/ Improve recycling	Waste management companies	☆☆
	Decrease the amount of packaging used, and use only degradable packaging	Less waste production/ Less packaging	Producers	☆
	Use less packaging and fewer plastic bags	Less packaging/ Less plastic	Producers / Retailers	☆
	Redesign the way waste separation bins look, so they become more visible and obvious	Improve recycling	Waste management companies/ Consumers	☆

COMMUNICATION AND EDUCATION

In the domain 'communication and education', three ideas received priority stickers. The first two highest-priority ideas focused on education. The first idea concerned education on waste management for gypsies in Slovakia. The second idea concerned education for children starting kindergarten. This idea mainly focused on ecological food and ecological packaging of products. The third idea concerned education to motivate people to separate waste; this could be reinforced with the use of financial incentives for waste separation. None of these ideas was further elaborated on during the focus groups.

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	Education in kindergartens and missionary activities focused on Roma gypsies	Awareness/ Behaviour change	Consumers	☆☆☆☆☆☆
	Educate people so that they will buy more ecological products in ecological shops and reward those who do	Behaviour change/ Awareness	Consumers	☆☆
	Increase motivation to separate waste through education and reimbursements	Behaviour change	Consumers	☆

LOCAL INITIATIVES

Within this category, two ideas were ranked as priority. The first idea that was put forward refers to a change in lifestyle, so that less waste would be produced. The second idea suggested inviting citizens to come up with proposals to improve waste management in some sort of competition. However, these ideas were not further elaborated in the focus groups.

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

Category	Idea	Aim	Target Group	Priority
Local initiatives	A change in lifestyle, i.e. less consumption	Behaviour change/ Less waste production	Consumers	☆☆
	Competitions for proposals that can improve the current situation among citizens and in schools	Other	Consumers	☆

5. Conclusion, discussion and evaluation

This country report presents country-specific findings from citizen focus groups in Slovakia. 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 had six focus groups in two different locations. In Slovakia three focus groups were held.

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 Slovakia. 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

Slovakia ranks 24th on the EU27 ranking list on Municipal Solid Waste (MSW) recycling, with 4% of its MSW being recycled. In the Flash Eurobarometer survey, 92% of the respondents said they separate at least some waste for recycling and composting. This is in line with the results of the focus groups, where the majority of participants said they separated waste. The fact that still little MSW is recycled might be explained by the fact that only 7% of MSW is collected separately. This was also found in the focus groups, since many participants stated that recycle bins were often not emptied or were lacking in some areas. According to the EEA, the waste recycling infrastructure is sufficient, but the collection system needs to be improved. This was also found in focus groups, where many participants called for more recycle bins or containers that are emptied more frequently. Moreover, 86% of the Slovakian Eurobarometer respondents indicated that better waste collection services would improve waste management in the community.

A second large barrier that Slovakia faces with regard to MSW recycling was put forward in multiple focus groups: namely, the attitude of the general population towards separation. From the discussions, it can be concluded that there is not yet a strong sorting and recycling culture among Slovakian citizens. The lack of knowledge and awareness regarding waste in general and waste separation, disposal and pathways was regularly brought up in the discussions. According to some of the participants, this lack of knowledge and awareness is one of the reasons people do not, or not sufficiently, sort waste and dispose of it according to the regulations.

5.2 Ideas for achieving a 'zero waste society'

Results in this section were divided in two main research domains, namely: 'environmental sciences and technology' and 'policy, management and communication'. Ideas that fell in the first research domain were categorized in three categories. First, participants discussed various technological innovations that mainly aimed to decrease the use of resources and the use of waste for other purposes. Examples are machines that turn waste into usable goods or materials and increasing the quality of goods through new production processes. Other ideas focused on new incineration techniques that would be non-polluting and harmless to the environment and human health. The second category in the first research domain was 'material' innovation. The ideas in this category mainly revolved around materials that are biodegradable and can be recycled more effectively. Another idea was that packaging materials should be edible, which means that less non-degradable material will be produced.

The third category in the research domain 'environmental science and technology' was 'bio(techno)logy'. The only idea in this category ranked as priority concerned the production of packaging materials that are soluble in water and that bacteria could be created to cleanse the water from the dissolved materials.

The second domain, 'policy, management and communication', was divided into four categories of ideas. Firstly, within the category 'policy', ideas mainly revolved around implementing policies that will encourage people and producers to prevent, sort and recycle waste more effectively. Participants proposed financial incentives for separation or fines for people or producers who do not follow government regulations. Moreover, financial profits between waste production and waste disposal and processing should become balanced by means of governmental policy.

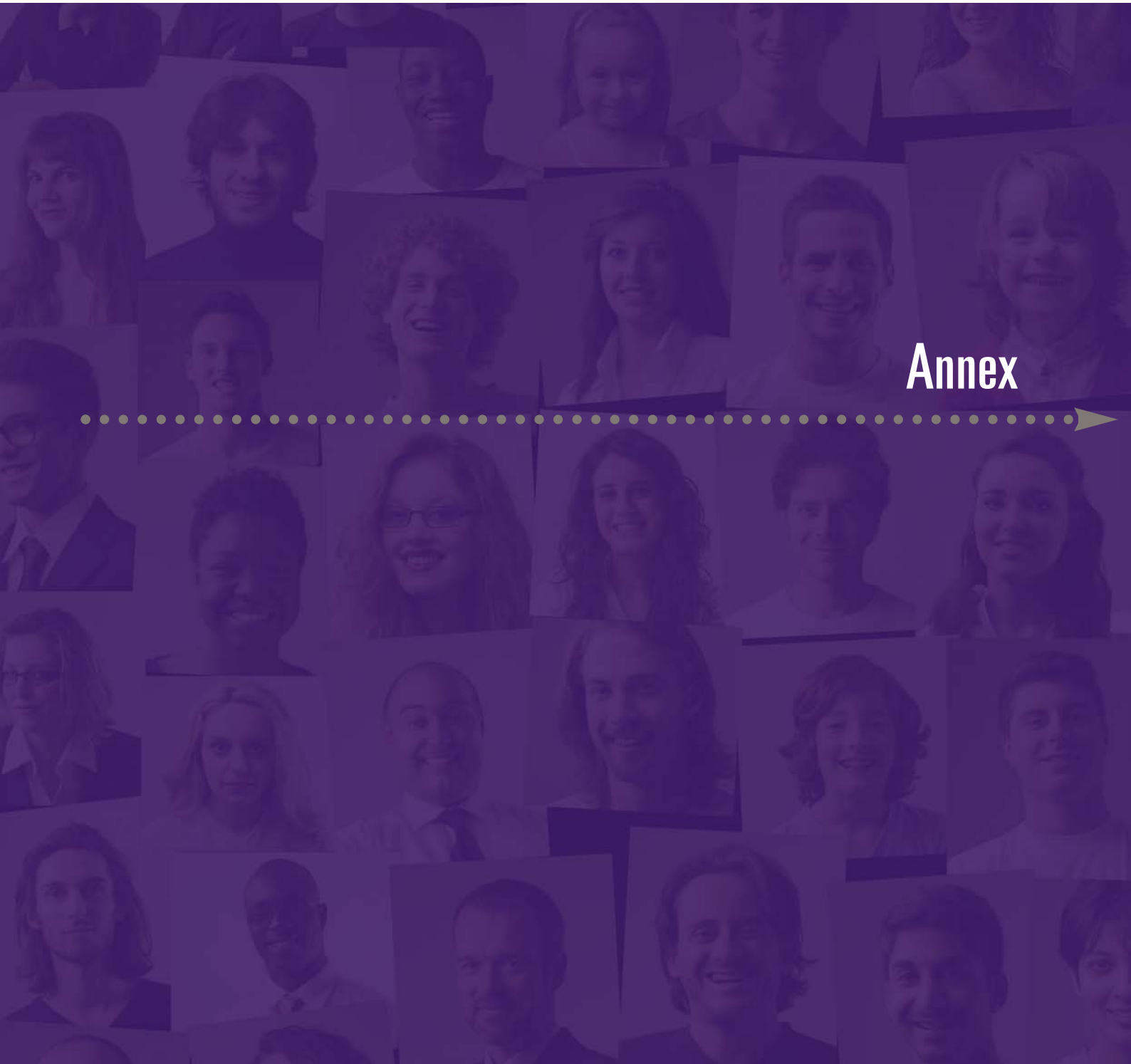
Secondly, in the category 'management and logistics', two central themes emerged. Participants voiced the need to increase waste processing capacity by, for example, increasing the number of waste processing plants or finding new ways to use waste for materials to build roads. The second central theme was to decrease the production of waste by reducing the amount of packaging and the distribution of plastic bags. Ideas within the third, communication and education, and fourth, local initiatives, categories mainly revolved around raising awareness and motivating people to embrace more sustainable lifestyles. These ideas, however, were not extensively reflected on.

Of the three most highly prioritised ideas, the first is shared between two that received the same number of priority stickers (8): extending the lifetime of household appliances by producing higher quality goods; making materials soluble in water and creating bacteria to filter out the useful compounds. The second priority involves balancing economic profits for production of goods and disposal of waste (7 stickers).

In general, the ideas that emerged in the focus groups stress the need for Slovakia to increase its waste processing capacity and to motivate people to sort and recycle waste more frequently. It can be concluded that effective use of resources and creative ways of processing waste were central themes in focus groups.

5.3 Reflection

The majority of participants acknowledged that urban waste is an important topic. Many participants said they learned a lot during the focus groups. They were happy that the EU asked their opinion. Most of the participants were able to formulate and voice their concerns and ideas. In general, participants enjoyed participating in the focus group and stressed the relevance of the topic.



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	Extending the lifetime of household appliances by producing higher quality goods	Less use of resources	Producers	☆☆☆☆☆ ☆☆☆
	A machine that turns waste into usable products	Effective use of waste	Consumers	☆☆☆☆☆
	A wishing table so there won't be any waste	Other	Undefined	☆☆☆☆☆
	Home incinerators for waste, without the emission of pollutants, and use the heat for in house heating	Convenience in the home/ Effective use of waste	Consumers	☆☆
	Turn waste back into its raw materials	Less use of resources	Waste management companies	☆☆
	Build a rocket that will disintegrate with the waste in it	Eliminate waste	Other	☆☆
	New incineration techniques that are less polluting and neutralise residues which can then be used	Effective use of waste/ Effects on planet	Waste management companies	☆
	Nano robots that can transform materials from one into another	Effective use of waste/ Less use of resources	Consumers/ Producers	☆
	Use mines to put in waste and add a substance that turns it into usable materials or energy!	Effective use of waste	Waste management companies	
	Find the philosopher's stone to turn waste into gold	Effective use of waste		
	Build a chip in people's brain that will punish people that illegally dump waste or don't follow the rules	Behaviour change	Consumers	
	Make electronic devices that don't have to be replaced in a year, but upgraded when necessary	Less use of resources	Producers	
	Acid that could decompose waste and turn it into fuel	Effective use of waste	Waste management companies	
	A robot that would eat up old goods and spit out new ones	Effective use of waste	Consumers	

	Flying "black holes" that suck up waste and compress it into solid mass	Other	Waste management companies	
	Shoot compressed waste into space and burn it in the sun	Eliminate waste	Waste management companies	
	Incineration installations that degrade waste to atoms and then turn it into fuels and energy to heat homes	Effective use of waste	Consumers	
	Controlled anti-gravity so the soles of shoes won't wear off	Less waste production	Consumers	
	Make fuels out of the gasses resulting from waste generation	Effective use of waste	Other	
	Make waste turn into sand or washing powder	Effective use of waste/ Convenience in the home	Consumers	
Material	Scientists should focus on the production of rapidly degradable packaging and bottles	Effects on planet	Producers	☆☆☆☆
	Self-liquefying packaging that will vaporise after a set time	Less waste production	Consumers	☆☆
	Produce edible packaging	Less waste production	Consumers/ Producers	☆☆
	Make recyclable glass bottles	Improve recycling	Producers	☆☆
	Tickets that turn into sweets or chocolate	Less waste production	Consumers/ Producers	☆☆
	Make bottles of high quality that can be reused repeatedly	Less waste production	Consumers	
	Make plastics soluble in oil so that they can be reused	Improve recycling	Producers	
	Clothes that grow with the person and don't wear off	Less use of resources	Consumers	
Bio(techno)-logical	Make materials soluble in water and create bacteria to filter out the useful compounds	Improve recycling	Waste management companies	☆☆☆☆☆ ☆☆☆

POLICY, MANAGEMENT AND COMMUNICATION

Category	Idea	Aim	Target Group	Priority
Policy	Balance economic profits for production of goods and disposal of waste	Other	Producers/ Waste management companies	☆☆☆☆☆ ☆☆
	Focus on domestic production, become self sufficient as a country, and consume only what is necessary	Local production/ Less waste production	Consumers	☆☆
	Stricter regulations and fines to improve separation and recycling behaviour	Behaviour change/ Improve recycling	Consumers	☆
	Fines for people that do not separate waste	Behaviour change	Consumers	☆
	Change policy so that both individuals and companies can be held responsible	Other	Consumers/ Producers	☆
	Support manufacturers to use more sustainable forms of packaging, and packaging that can be reused more often	Less plastic/ Less packaging	Producers	
	Town planning, decentralise waste management together with sustainable materials and composting possibilities	Other	Waste management companies	
	Motivate people, with a reward system, to use reusable bags instead of plastic ones	Less waste production/ Behaviour change/ Less plastic	Consumers	
	Reduce the total use of plastic for consumer goods	Less plastic	Producers	
	Support projects that increase reuse of bottles, taps for milk and water to reuse bottles and jerry cans	Less plastic/ Improve recycling	Consumers	
Management/ Logistics	In administration, digitalize more so that less paper will be used	Less waste production	Other	☆☆☆☆
	Use waste for the production of roads or for ornamental purposes	Effective use of waste	Waste management companies/ Producers	☆☆☆
	More recycling centres and incineration plants, without the production of pollutants	Effects on planet/ Improve recycling	Waste management companies	☆☆
	Decrease the amount of packaging used, and use only degradable packaging	Less waste production/ Less packaging	Producers	☆
	Use less packaging and fewer plastic bags	Less packaging/ Less plastic	Producers / Retailers	☆
	Redesign the way waste separation bins look, so that it becomes more visible and obvious	Improve recycling	Waste management companies/ Consumers	☆

	Go back to the system with returnable bottles	Less waste production	Consumers	
	Replace plastics with alternative materials	Less plastic	Producers	
	Get companies to start cleaning up waste and separate waste in order to motivate citizens to do the same	Improve recycling	Waste management companies	
	Let companies re-separate waste that has not been effectively been separated before	Improve recycling/ Behaviour change	Producers/ Waste management companies	
	Shops should take in all forms of glass for deposit fees	Improve recycling	Producers	
	Find alternative uses for waste that is produced	Effective use of waste	Producers	
Communication and education	Education in kindergartens and missionary activities focused on Roma gypsies	Awareness/ Behaviour change	Consumers	☆☆☆☆☆ ☆
	Educate people so that they will buy more ecological products in ecological shops and reward those who do	Behaviour change/ Awareness	Consumers	☆☆
	Increase motivation to separate waste through education and reimbursements	Behaviour change	Consumers	☆
	Set up campaigns at schools and institutions to raise awareness on the effects of waste and how to separate and recycle	Behaviour change/ Awareness of negative effects	Consumers	
	Children should be educated how to behave, they will have to run the earth in the future	Awareness	Consumers	
	Use internet to inform consumers on creative ways to turn waste into useful objects	Effective use of waste/ Awareness of possibilities	Consumers	
Local initiatives	A change in lifestyle, i.e. less consumption	Behaviour change/ Less waste production	Consumers	☆☆
	Competitions for proposals that can improve the current situation among citizens and in schools	Other	Consumers	☆
	People should help each other more by trading goods that are useful for others	Improve recycling	Consumers	

Annex 2: Attitudes of citizens from Slovakia 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 Slovakia.

Question	Answer	%	EU27 Average
Do you think Europe could be more efficient in its use of natural resources?	Yes	94%	87%
	No	2%	5%
	DK/NA*	4%	8%
Do you think that your household is producing too much waste or not?	Yes	36%	41%
	No	63%	58%
	DK/NA*	1%	1%
Do you separate at least some of your waste for recycling or composting?	Yes	92%	89%
	No	8%	11%
	DK/NA*	0%	0%
What initiatives would convince you to separate (more) waste?	More and better drop-off points for recyclable and compostable waste	74%	76%
	Improve separate waste collection at your home	51%	67%
	More information on how and where to separate waste	58%	65%
	Legal obligation to separate waste	53%	59%
	Taxes for waste management	38%	39%
What initiatives would improve waste management in your community?	Better waste collection services	83%	70%
	Stronger law enforcement on waste management	64%	65%
	Make producers pay for collection and recycling of waste	57%	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	12%	14%
	To pay proportionally to the quantity of waste you generate	78%	75%
	DK/NA*	10%	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	22%	25%
	Include the cost of waste management in the price of the products you buy	58%	59%
	DK/NA*	20%	16%
Can you estimate what percentage of the food you buy goes to waste?	None	30%	11%
	15% or less	61%	71%
	16% to 30%	6%	13%
	More than 30%	2%	4%
	DK/NA*	0%	1%
What would help you to waste less food?	Better estimate portion sizes (how much food you cook) to avoid excess food	43%	62%
	Better information on food product labels, e.g. how to interpret "best before" dates, information on storage and preparation	52%	61%
	Better shopping planning by my household	38%	58%
	Smaller portion sizes available in shops	43%	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	22%	39%
	Rather important	41%	41%
	Rather not important	21%	12%
	Not at all important	14%	6%
	DK/NA*	2%	2%
Are you willing to buy second-hand products?	Yes	40%	68%
Base: all respondents, % of yes			
Would you buy the following products second hand?	Furniture	30%	56%
Base: all respondents, % of yes	Electronic equipment	24%	45%
	Textiles (clothing, bedding, curtains, etc)	28%	36%
What reasons prevent you from buying second-hand products?	Quality/usability of the product	65%	58%
	Health and safety concerns	40%	50%
	Less appealing look of the product	17%	25%
	Afraid of what others might think	8%	5%
Would you buy products made of recycled materials?	Yes	79%	86%
	No	15%	11%
	DK/NA*	6%	3%
What would be the most important factors in your decision to buy products made of recycled materials?	Quality/usability of the product	54%	51%
	Environmental impact of the product	16%	26%
	Price of the product	23%	18%
	Brand/brand name of the product	4%	2%
	DK/NA*	3%	3%
What prevents you from buying recycled products or products containing recycled materials?	Health and safety concerns	32%	44%
	Quality/usability of the product	48%	42%
	No clear consumer information on the recycled product	7%	32%
	Less appealing look of the product	22%	17%
	Afraid of what others might think	8%	5%

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

NOTES

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ACRC S.R.O.
SLOVAKIA

Kremnická 14
851 01 Bratislava

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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