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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 Hungary, 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

HUNGARY

3. Country relevant data - Hungary

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, Hungary is one of the smaller EU countries with less than 10 million inhabitants. Approximately half of the inhabitants live in rural areas (47%), while others live in urban areas (17%) and intermediate areas (36%).

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

		2011	
Population at 1 January		9 985 722	
Population as percentage of EU27		2.0%	
Gross Domestic Product (PPP)		21 500 Euro	
Population urban-rural typology	Urban	1 734 000	17%
	Intermediate	3 587 000	36%
	Rural	4 665 000	47%

3.2 Factsheet on waste

The amount of municipal waste generated and treated in Hungary is below the average amount of waste treated in the EU27. Hungary ranks 15th on the EU27 ranking list for Municipal Solid Waste Recycling (MSW). If the increase in recycling over the last five years can be maintained, then the recycling rate will reach 47% in 2020, just below the 50% target set by the EU Waste Framework Directive.[9]

Table 3.2 Municipal Waste[10,11]

		Hungary		EU27 average	
Municipal waste generated (kg per person)		413 kg		502 kg	
Municipal waste treated (kg per person)		413 kg		486 kg	
Municipal waste treated	Landfilled	285 kg	69%	185 kg	38%
	Incinerated	41 kg	10%	107 kg	22%
	Recycled (material recycling)	74 kg	18%	122 kg	25%
	Composted (organic recycling)	12 kg	3%	73 kg	15%

3.3 Composition of the focus groups

In Hungary, three focus groups (FGs) took place on the weekend of 6th April 2013. They were held in Budapest, moderated by Anita Litvay, Demonstrators Coordinator at the Csodák Palotája Science Centre.

In total, 30 people (15 male and 15 female) participated in the three FGs. The age of the participants ranged from 18 to 63: 9 participants were aged between 18 and 35; 11 between 36 and 50; and 10 were aged 51 or over. Educational levels were diverse with 9 participants of a high level of education, 12 of a middle level and 9 of a low level of education. 24 participants were working, while 3 were unemployed and 3 were retired. 20 participants live in a house and 10 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	9	11	10	30
Gender	Male	4	6	5	15
	Female	5	5	5	15
Age	18 - 35	9	0	0	9
	36 - 50	0	11	0	11
	50+	0	0	10	10
Education	High	3	3	3	9
	Medium	3	6	3	12
	Low	3	2	4	9
Employment	Unemployed	1	1	1	3
	Employed	8	9	7	24
	Retired	0	1	2	3
	Student	0	0	0	0
Housing	Flat	3	3	4	10
	House	6	8	6	20

[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 Hungary. 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

Nearly all participants said they separate their waste. They typically described four waste streams (a waste stream is defined as one type of waste that is collected separately, covering the majority of their household waste): paper, plastic, glass and residual waste. In two focus groups, some participants mentioned they also sort metal. Garden waste and food waste are used by nearly all participants as compost for their garden. In all focus groups, some participants mentioned they use leftovers to feed their dogs or chickens.

> *"Yes, I am in the lucky position that I live close to my mother who owns hens, and they eat everything. There isn't much, but what there is, is reused by the hens." (Hungary FG2, P3)*

One of the participants mentioned that he takes his leftovers to homeless people. The participants explained that many citizens burn their paper and wood in the garden. In two focus groups, it was mentioned that paper is collected by school children.

Participants in one focus group explained that the municipality distributes bags for the various types of waste. The participants who live in family houses collect their waste in several bags that are placed on the side of the road. The participants who live in flats have communal containers in the building for paper and plastic, whereas glass and metal is brought to local drop off points. The residual waste is thrown in the rubbish chute.

[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

Bags that are placed on the side of the road are picked up by the garbage truck. Participants did not mention how often the garbage trucks collect their waste. One participant mentioned that there is a programme where labelled bags with plastic and green waste are picked up at regular intervals.

Some of the participants mentioned that they bring glass and metal to refuse collection points.
Bottles with deposits are taken back to supermarkets or shops. One participant uses her bottles to make preserves. In addition to the waste streams mentioned above, the participants also separate clothes, batteries and furniture. Batteries are usually collected at stores. Clothes are given to charity organisations or second-hand shops. One of the participants explained that she reuses her own clothes to make new clothes. Others give their clothes away:

"I do not dispose of any clothing, but rather give it to friends." (Hungary FG 1, P 1)

Used household appliances, like washing machines, are either sold on the internet or given to friends. Old furniture is placed on the side of the road so people in need can take it away. One of the participants mentioned works at a company which organises several waste collection events where employees can bring their hazardous waste, like medication, CDs and batteries.

4.1.3 Knowledge about waste pathways

In general, participants expressed considerable uncertainty about what happens to waste after disposal. Many participants thought that all residual waste goes to landfill. Plastic bottles are thought to be recycled. Some participants think that all sorted waste is possibly recombined and thrown together at collection because they observed different waste bags being emptied into the same garbage truck. Two participants mentioned that they have been on a trip to a landfill so they know where their waste ends up. One of the participants said clothes that are brought to shops are being sold and the income is given to the needy.

4.1.4 Waste management behaviour and convenience

Two participants mentioned that some citizens do not use the waste management system correctly. Participants described examples of citizens throwing their waste in the wrong bin. According to one of the participants, more collection points for used furniture and household appliances would be convenient, as illustrated by the following quote:

"Vacuum cleaners and such can be put outside in front of the house and they take it, then the waste pickers come and make a mess of the pile. It would be better if there were a place for collecting." (Hungary FG2, P9)

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

When talking about waste prevention and production, some concerns regarding packaging came up in two focus groups. The participants felt packaging of products was unnecessary and excessive. For instance, small products are packed in large boxes, which leaves a lot of unused space.

"Yes, for example washing powder. Half the carton is empty [...]." (Hungary FG3, P4)

One participant mentioned not buying certain products because of unnecessary packaging. Another participant thought that manufacturers are obliged to use large packaging because every package needs to contain a list of all ingredients in different languages. In addition, every package is obliged to contain safety information about allergies. Another participant stated that consumers prefer to buy products that are well packaged for hygienic reasons, as illustrated by the following quote:

"I do not like salamis being carved right on the spot, and they go bad and who knows for how long they are stored there. On the manufacturer's packaging there are dates shown [...]." (Hungary FG 1, P2)

Finally, one of the participants was concerned that packaging is often made out of plastic instead of natural materials.

Another concern that came up in one focus group was the large amount of flyers and advertisements coming through the letterbox. The participants felt a lot of energy is being used to produce high quality, colour advertisements. However, these flyers cannot be burnt, so they often end up in the general rubbish.

4.2.2 Waste management in the household

Although many participants said they recycle at home, they face several barriers and concerns with respect to sorting their waste appropriately. In all focus groups, participants mentioned that citizens are lazy and lack knowledge on how to sort waste correctly. One of the participants said he does not know how to dispose of oil, for example. Other participants were concerned about all the waste that citizens throw out of their car window. The participants felt that a lack of information and education is the cause of this problem. They were of the opinion that if the public had been educated at an early age, they would know how to sort their waste correctly. In two focus groups, the participants made a comparison between Hungary and Germany. They believed German people know how to sort waste, because children learn at an early age that waste should be brought to collective containers.

There were also complaints about the untidy way some citizens dispose of waste.

"[P9] You should see the area around the rubbish drop-offs, there is so much rubbish, they don't put the stuff inside but next to the bins.
[P4] Many people don't even care that this is how they do it." (Hungary FG3)

In one focus group, the participants indicated that separating waste is tiresome and complicated, and expressed the belief that this is part of the reason people dispose of all their waste in one and the same bin. Another concern raised by one participant was that citizens often use wood and coal for heating, instead of gas. The use of wood and coal results in hazardous waste and pollutes the environment.

4.2.3 Waste disposal and pathways

Participants mentioned a number of flaws in the waste management system that stops them separating their waste. The participants wondered whether their efforts really do make a difference. Some of them worried that all separated waste actually goes into one big pile in the end:

"We collect everything, but I don't know, what is the point? Is there really a lorry that takes away each thing separately, and doesn't just pour all the waste in together? Is this just for show, or is it really collected in this way?" (Hungary FG3, P6)

One participant mentioned that he once asked a waste collector about the separation of waste. The collector explained that although waste is put together in one truck, in the end it will be separated.

In one focus group, a few participants mentioned that the lack of communal bins keeps them from separating waste. One of them explained that there is only one bin for paper, which is located far away. This is especially inconvenient if citizens have a large amount of paper to dispose of. Another participant agreed and mentioned that drop-off points for rubbish are located too far away.

The participants also mentioned that in the past they were able to return beer bottles, milk bottles and jars but this was no longer possible and these containers consequently end up in the general waste.

Two participants expressed the concern that, at a certain moment, landfills will become too full and there will be no place left to dispose of waste. In two focus groups, the participants also discussed their concerns regarding pollution of the environment in general. They believed that cars and factories are causing air pollution. In addition, one of the participants worried about the destruction of the ozone layer as a consequence of incinerating waste:

"Currently there is no alternative to incineration, we fill up the atmosphere with fossil fuels, and subsequently we will have a focus group meeting about what is going to happen with the ozone layer." (Hungary FG 1, P8)

Furthermore, another participant mentioned that electronic waste cannot be processed in Hungary.

Finally, one of the participants believed that the fee for waste collection is too high, and waste collection should be free of charge. In response, several participants mentioned that the problem lies at governmental level because the government does not consider waste to be of primary concern.

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

The first category in the domain of 'environmental sciences and technology' groups together technical, chemical, physical and engineering ideas (see table 4.3.1). The highest priority suggestion within this category was to decrease the planned obsolescence of household appliances, which was mentioned in two of the focus groups:

"We live in, like, a consumer society where people are encouraged to buy things as often as possible and their useful life gets shorter all the time. My mates told me that a while ago refrigerators lasted for 30 years even and now it is lucky if they have been calibrated for seven years. So we think that increasing the useful life span of products would be very important." (Hungary FG2, P1)

Participants indicated that if products with a long lifespan returned, less household waste would be generated.

Technical innovations for the effective use of waste were also popular. The concept of using waste as a source for heating homes or generating electricity was ranked as high priority in one of the focus groups. This idea requires the development of a power plant that incinerates household waste:

> *"Rubbish would go to a power plant with a filter, of course [laughter]. The energy would not be lost, but let's say that could be used for heating and electricity, it would not be lost in the form of smoke. And everything would run on waste. Rubbish should not be piling up in landfills, but we should incinerate it here." (Hungary FG3, P 1)*

Another, small-scale version of this idea focused on the development of household appliances that run on household waste. One participant, for example, suggested developing a toaster that could run on plastic cups. Another idea in this category concerned the development of a machine that would be able to shoot waste up to another planet, as close as possible to the sun, the heat of which would burn up the waste in space. Finally, participants prioritised the idea of improving technologies in general, although this was not further explained or elaborated upon.

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	Decrease planned obsolescence: develop household appliances with a longer lifespan	Less use of resources/ Less waste production	Producers	☆☆☆☆☆☆☆☆☆☆☆
	Develop a power plant (with filter) to burn waste and use the produced energy for heating homes or generating electricity	Effective use of waste	Consumers/ Producers	☆☆☆☆☆
	Find a way to shoot waste up to another planet, as close as possible to the sun, the heat of which will then burn it up	Eliminate waste	Waste management companies	☆☆☆☆
	Invent household appliances that run on household waste	Effective use of waste	Consumers	☆☆☆☆
	Better technologies	Undefined	Producers/ Consumers	☆☆

MATERIALS

A second category related to the domain of 'environmental sciences and technology' groups together ideas that focus especially on the 'material' dimension (see table 4.3.2). These ideas generally involve research into new materials with certain characteristics that are thought to reduce waste production. Packaging material was identified as an area of attention in almost all focus groups. A solution for this, mentioned a few times, is the use of degradable packaging material instead of non-degradable ones. A similar idea focused on the products themselves rather than the packaging. One participant proposed the development of products that are

completely degradable, although this idea was received with laughter by some other participants.

"[P2] In the long run, this could be used not only for packaging but for anything else. There could be biodegradable TVs... [laughter]
[P3] The TV would decompose in the middle of a movie? [laughter]
[P2] But seriously, the TV set we purchase works for about 10 years to begin with. I think it was you who said that they are manufactured to break down and we should have the urge to buy a new one. So it could be achieved that these TV sets, I do not say that on their own, but with a simple technical solution would become degradable." (Hungary FG 1)

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

Category	Idea	Aim	Target Group	Priority
Material	Development of biodegradable packaging material and products that are completely biodegradable	Less plastic/ Effect on planet	Producers	☆☆☆☆

4.3.2 Policy, management and communication

POLICY

Several ideas that had been grouped into the category 'policy' (see table 4.3.3) aimed at improved recycling. Participants believed that introducing financial incentives for taking reusable packaging back to the shop would stimulate consumers to act accordingly, or as one participant put it:

"Financial motivation gets people moving." (Hungary FG 1, P2)

In order to improve recycling in Hungary, the adoption of foreign waste management models was also proposed. Germany and Sweden were mentioned as good examples:

"[P2] There are countries with way better waste handling. Why do we not adopt ideas from them...? For example, you can read everywhere that Sweden has a recycling plant so huge that they take waste from foreign countries. Even so, they do not run with full capacity. They are almost like waiting for the waste from Europe to be processed. If they can do it, why could not we do it...?
[P3] Yes, models should be adopted." (Hungary FG 1)

Moreover, participants came up with the idea of imposing restrictions on producers so that they are forced to reduce excess packaging. The final idea in this category that was ranked as priority involved the organisation and funding of EU-wide projects to encourage companies, universities and individuals to come up with innovative solutions about how to reduce waste.

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

Category	Idea	Aim	Target Group	Priority
Policy	Financial incentives for consumers for returning their reusable packaging (e.g. milk bottles)	Improve recycling/ Behaviour change	Consumers	☆☆☆
	Adopting foreign models for recycling and waste management. Sweden and Germany were mentioned as good examples	Improve recycling	Government/ Waste management companies	☆☆

Restriction on excess packaging	Less packaging	Producers	☆
Organise and fund EU wide projects to stimulate people to come up with innovative ideas about how to reduce waste	Less waste production	Consumers/ Producers/ Others	☆

MANAGEMENT AND LOGISTICS

Several ideas in the category of 'management and logistics' (see table 4.3.4) focused on reducing the amount of packaging or on replacing current packaging concepts by recyclable or reusable ones. Participants from one focus group considered that consumers should not have to dispose of packaging after one single use, and therefore suggested increasing the use of durable packaging. The example of glass milk bottles, which can be refilled over and over again was mentioned as an alternative to milk cartons. One participant suggested expanding this system to other beverages as well:

"[P7] We would go for the more durable items not the degradable ones, but they should last longer. In our area, milk is delivered to our homes. Not in a plastic bag, but in bottles.
[P8] But this should be expanded for all liquids, in addition to milk." (Hungary FG 1)

In another focus group, the idea to use more 'family sized' packaging was proposed, meaning that products should be sold in larger units. In the case of yoghurt, for example, one participant said that a single container should not contain merely two spoonfuls of yoghurt. Instead, products should be sold in larger portions in jars that can be resealed because this would greatly reduce packaging waste for a household.

In addition, participants suggested the introduction of shopping bags made from paper or from a new biodegradable material, to replace plastic ones.

Furthermore, in order to improve recycling and save energy, some participants thought that recycling should be decentralised. Plastic bottles were mentioned as an example that could be recycled at domestic or national level. Participants suggested using plastic bottles as a resource to produce new products (e.g. benches) instead of shipping all the bottles to China to let it be taken care of there.

Table 4.3.4 Ideas within the category 'management and logistics' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Management/ Logistic	Increase the use of durable packaging, for example refillable milk bottles instead of milk cartons	Less use of resources	Consumers/ Producers	☆☆☆☆☆
	Greater use of larger volumes for products in jars that can be refilled	Less packaging	Consumers	☆☆☆
	Decentralisation of recycling in order to save energy; start recycling at national or domestic level by using recyclable waste as resource	More recycling/ Effect on planet	Waste management companies/ Consumers	☆☆

Management/ Logistic	Increased use of alternatives for plastic shopping bags, e.g. biodegradable or paper bags	Less plastic	Consumers/ Producers	☆

COMMUNICATION AND EDUCATION

Several ideas focused on providing information for consumers. These ideas have been grouped in the category 'communication and education' (see Table 4.3.5). Raising awareness and bringing about behavioural change are important aims in this category. Significant change is expected when the public at large is better informed and educated about various issues related to the topic of waste management.

Ideas for educational programmes, targeting the general public or a specific group, were ranked as very high priority in all focus groups. Participants agreed that educational programmes about waste should start at an early age so that people can act accordingly later in life. The idea of introducing environmental awareness lessons at school was fairly popular in all groups. Participants also suggested including practical components in children's education, such as student exchange programmes, in which children learn from good practices abroad:

"The Union [EU] should set aside money for this, that Hungarian children travel to places where they can see how others protect the environment abroad. Whoever wins this, there could be a student exchange programme with a place where the system works well. And the children learn how to separate." (Hungary FG2, P1)

Although the majority of participants acknowledged the importance of school education programmes, they mentioned that it is also parents' responsibility to teach their children from childhood how to deal with waste responsibly.

Another idea that was ranked as priority in one of the groups concerns the development of general awareness campaigns that focus on the negative consequences of waste problems on the environment. According to participants, these should mainly target children and should be communicated via popular media channels, such as television. Others were more in favour of interactive approaches and proposed public presentations and discussions to raise awareness about the problems surrounding urban waste and provide information about how to separate and collect waste appropriately. Participants suggest that such presentations could be organised at different locations, including schools, auditoriums and cultural centres. These presentations would not be mandatory but participants considered that if people receive a small reward for their participation, they would surely be glad to attend.

"[P1] Our last idea is to hold awareness raising presentations. People must be made conscious of the problem. In cultural centres, etc.
[P3] Yes, if let's say they promise to give a Coca Cola, people will definitely go to such a presentation.
[M] So motivation is what is important.
[P3] Yes. If I watch something on TV that's one thing, but if you talk with someone about it at a group discussion like this, that's totally different. It is much more effective. It should be introduced in schools." (Hungary FG2)

Finally, in one of the focus groups, an idea came up to inform the public about 'conscious consuming' so people become more aware of their own behaviour as a consumer.

"The point would be that we pay attention during our life that we don't drink out of plastic cups, that we don't throw out what is perishable, more conscious consumption would be needed. That we don't buy things we don't need." (Hungary FG2, P4)

Table 4.3.5 Ideas within the category 'communication and education' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Communication and education	Education programmes in school to motivate children to deal with waste responsibly, as early as in nursery school - also parents should educate their children about proper waste management	Awareness	Consumers	☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆
	Organising presentations/public discussions to raise general awareness about the problems of urban waste	Awareness of negative effects	Consumers	☆☆☆☆☆
	Media commercials about the negative consequences of the waste problems on the environment, particularly aimed at children	Awareness of negative effects	Consumers	☆☆☆
	Somehow ensure that people consume more consciously	Behaviour change	Consumers	☆☆☆
	Student exchange programmes to countries where the waste system works well to teach Hungarian children how to separate and deal with waste responsibly	Awareness of possibilities/ Behaviour change	Consumers	☆☆

LOCAL INITIATIVES

Some ideas that were put forward in the focus groups would not need much innovation or research. Instead, they merely need some organisation and someone to start such an initiative. The category 'local initiatives' captures these ideas (see table 4.3.6). The only priority idea that comes under this category is increased exchange of used goods and was proposed in two of the focus groups.

"A used article exchange would be a good idea because what is rubbish for one person could be needed by another. Barter,[13] or something like that. There should be more garage sales." (Hungary FG2, P7)

Table 4.3.6 Ideas within the category 'local initiatives' that received priority, ranked accordingly

Category	Idea	Aim	Target Group	Priority
Local initiatives	More exchange of used goods, e.g. garage sales or opening of used goods ("rubbish") shops	Less use of resources	Consumers	☆☆☆

OTHER

The category 'other' is concerned with ideas that deal with issues that are outside the scope of 'municipal solid waste'. Two ideas were put forward that belong to this category and were also assigned priority (see table 4.3.7).
One group of participants raised the idea of maximizing the use of solar cells for heating instead of coal. This would produce less ash and thus less waste, as he explained:

> *"Maximise the use of solar energy, and we won't create as much sludge as other types of heating. Because if we use coal for heating, that produces some sort of ash and that has to be disposed of in some way too." (Hungary FG3, P4)*

One idea - 'restrictive provisions' - was not explained in the focus group; therefore it was not clear what the idea entails and to which category it belongs.

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

Category	Idea	Aim	Target Group	Priority
Other	Maximise the use of solar cells for heating instead of coal, which would produce less ash, and thus less waste	Less waste production	Consumers	☆
	Restrictive provisions	Undefined	Undefined	☆

[13] Barter is a system of exchange by which goods or services are directly exchanged for other goods or services without using a medium of exchange, such as money (source: Wikipedia)

5. Conclusion, discussion and evaluation

This country report presents country-specific findings from citizen focus groups in Hungary. 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 Hungary 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 Hungary. 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

Hungary's performance regarding recycling has improved over the last decade from 2% in 2001 to 21% in 2010. In the same period, the generation of municipal solid waste has decreased by 13%. If the increase in recycling can be maintained, it is expected that the recycling rate could reach 47% in 2020, which is slightly under the 50% target set in the EU legislation for 2020.[14] The increase in recycling is visible in the VOICES focus group results with nearly all participants indicating that they separate and recycle waste at household level. This is consistent with findings from the Flash Eurobarometer survey 'Attitudes of Europeans towards resource efficiency'[15] in which 77% of the Hungarian respondents indicated that they separate at least some waste (see Annex 2). The results of the focus groups show that the majority of participants have little knowledge about what happens to waste after collection. They assume general waste goes to landfill, while plastic and glass are believed to be recycled.

During the focus groups, some clusters of barriers and concerns for handling waste appropriately could be distinguished. With respect to production and prevention, concerns about the excessive amount of packaging and the unnecessary distribution of advertising flyers were most frequently mentioned.

With respect to dealing with waste in the household, the main barrier to separating and recycling waste is participants' limited knowledge about how to deal with waste appropriately. This is consistent with findings of the Flash Eurobarometer survey showing that three-quarters of respondents from Hungary think that more information on how and where to separate waste would convince them to separate more. In this study, participants considered that citizens' ignorance and a lack of early education on the subject prevent many people from dealing with their waste properly.

Furthermore, several concerns came up regarding the disposal of waste. The participants were concerned about whether their efforts really do make a difference. Some of them worried that all separated waste is put together in the end by the waste collection companies. The limited availability of recycling containers (e.g. for paper) and the distance to such facilities was also seen as a barrier for separating waste. This is in line with the results from the Flash Eurobarometer survey where 82% of the respondents indicated they would like to have more and better drop-off points for recyclable and compostable waste. Finally, participants expressed some long-term concerns. They are particularly anxious about the environmental impact of incinerating and disposing of waste.

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 first domain, ideas focused mainly on technologies to use waste more effectively, to produce less waste and to reduce the use of new resources. Producers and consumers are the most prominent target groups, followed by waste management companies. Technical innovations for the effective use of household waste were ranked as high priority. Other ideas relate to the original product before it becomes waste, aiming to reduce waste production by making products and packaging material completely biodegradable or more durable. The participants were concerned about the planned obsolescence of products nowadays. Therefore, they assigned high priority to the idea of doing more research on developing household appliances with a longer lifespan.

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

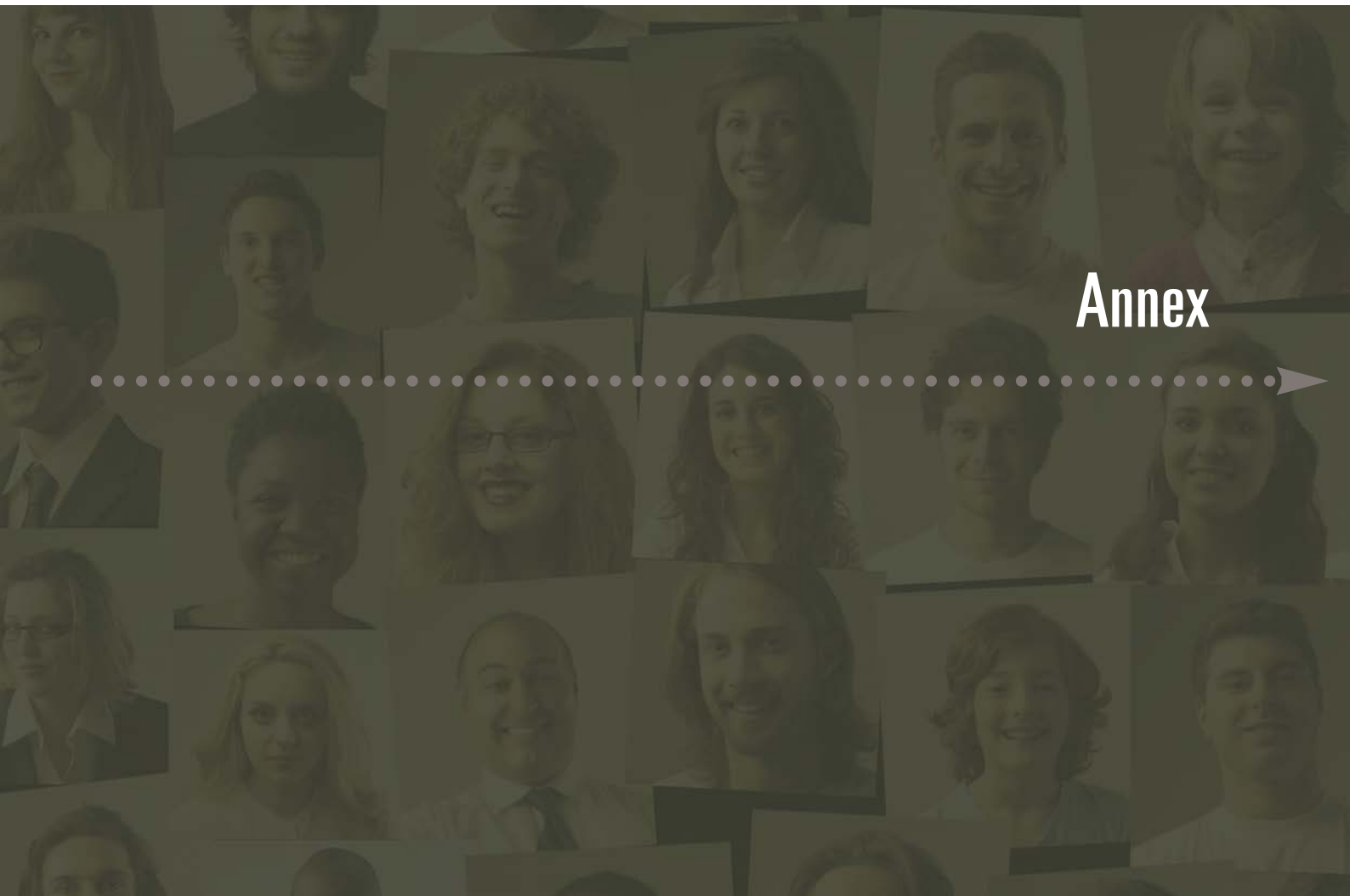
[15] Flash Eurobarometer No. 316 - The Gallup Organisation (2011)

Ideas in the second domain 'policy, management and communication' were mainly concerned with regulations, incentives, information and education to reduce waste, improve recycling and raise awareness. Consumers and producers are the main target group, closely followed by the government and waste management companies. Financial incentives should be provided to consumers for returning their reusable packaging, while producers should be forced to reduce the amount of packaging material. Ideas regarding the use of durable materials and bulk production aimed to improve recycling and reduce packaging. Citizens are perceived as one of the most important actors to increase sorting and recycling of waste. The topic of waste management should be given due attention from childhood onwards and, therefore, ideas regarding school education programmes were ranked as high priority. General awareness campaigns and public discussions might also be used to raise awareness about the problems surrounding urban waste. Significant change is expected when the public at large is better educated and informed on how to deal with waste responsibly.

When looking at the three highest prioritised ideas, the first priority is education programmes in schools to motivate children to deal with waste responsibly, as early as in nursery school; also parents should educate their children about proper waste management (16 stickers). The second priority involves decreasing planned obsolescence; develop household appliances with a longer lifespan (11 stickers), followed by developing a power plant (with filter) to burn waste and use the produced energy for heating homes or generating electricity (5 stickers).

5.3 Reflection

The focus groups were effective in eliciting citizen's preferences, values, needs and expectations concerning urban waste and innovation. During the focus group, the participants were active and interested. They were glad of the opportunity to discuss problems about waste in detail and were inspired by the ideas of others. In one of the focus groups, the participants mentioned they found it hard to see the benefit of this meeting for effective waste management in Hungary. However, they hoped their input would be valuable for the European Commission.



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	Decrease planned obsolescence: develop household appliances with a longer lifespan	Less use of resources/ Less waste production	Producers	☆☆☆☆☆ ☆☆☆☆☆ ☆
	Develop a power plant (with filter) to burn waste and use the produced energy for heating homes or generating electricity	Effective use of waste	Consumers/ Producers	☆☆☆☆☆
	Find a way to shoot waste up to another planet, as close as possible to the sun, the heat of which will then burn it up	Eliminate waste	Waste management companies	☆☆☆☆
	Invent household appliances that run on household waste	Effective use of waste	Consumers	☆☆☆☆
	Better technologies	Undefined	Producers/ Consumers	☆☆
	Development of a household machine that separates waste into component parts and takes what it needs for making a new product	Effective use of waste/ Improve recycling	Consumers	
Material	Development of biodegradable packaging material and products that is completely biodegradable	Less plastic/ Effect on planet	Producers	☆☆☆☆

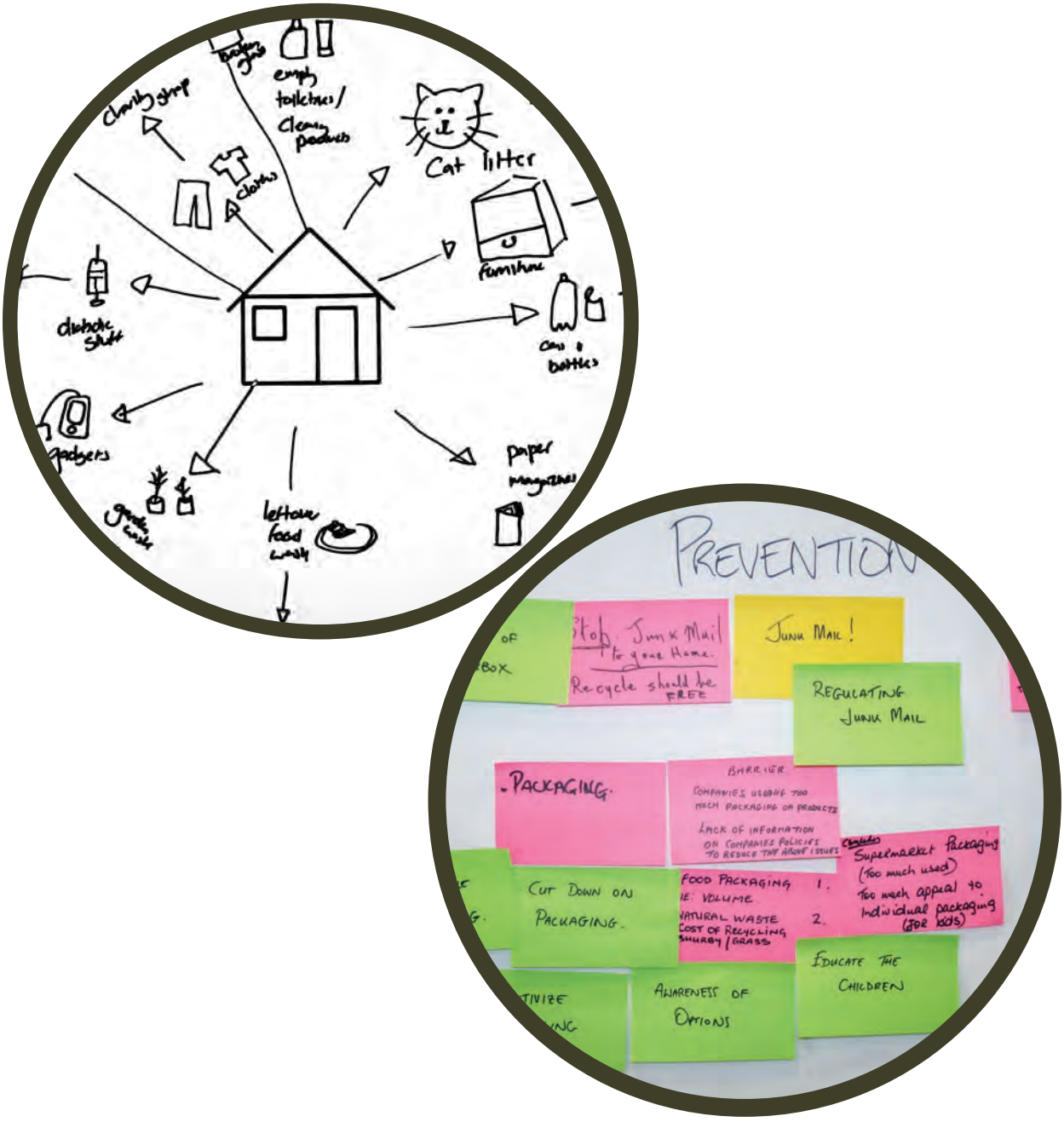
POLICY, MANAGEMENT AND COMMUNICATION

Category	Idea	Aim	Target Group	Priority
Policy	Financial incentives for consumers for returning their reusable packaging (eg milk bottles)	Improve recycling/ Behaviour change	Consumers	☆☆☆☆
	Adopting foreign models for recycling and waste management. Sweden and Germany were mentioned as good examples	Improve recycling	Government/ Waste management companies	☆☆
	Restriction on excess packaging	Less packaging	Producers	☆
	Organise and fund EU wide projects to stimulate people to come up with innovative ideas about how to reduce waste	Less waste production	Consumers/ Producers/ Others	☆
	Reduce economic interests in the waste industry ("waste business is too lucrative")	Other	Waste management companies	

	Introduce a tax for the distribution of advertisement flyers in an attempt to reduce the amount of flyers that are distributed	Less waste production	Producers	
	Abolish the VAT on trading used items	Less use of resources	Producers/ Consumers	
	Increase support for production of environmentally friendly products	Effect on planet	Producers	
	Force citizens to separate waste correctly, by giving penalties if they do not	More recycling/ Behaviour change	Consumers	
Management/ Logistics	Increase the use of durable packaging, for example refillable milk bottles instead of milk cartons	Less use of resources	Consumers/ Producers	☆☆☆☆☆
	Greater use of larger volumes for products in jars that can be refilled	Less packaging	Producers/ Consumers	☆☆☆
	Decentralisation of recycling in order to save energy; start recycling at national or domestic level by using recyclable waste as resource	More recycling/ Effect on planet	Waste management companies/ Consumers	☆☆
	Increased use of alternatives for plastic shopping bags, e.g. biodegradable or paper bags	Less plastic	Consumers/ Producers	☆
	Making disposal of household waste more convenient and comfortable, e.g. providing more bins and/or at places more nearby	Convenience in the home	Consumers	
	Introduce deposit systems for used bottles (glass, PET etc) and frying oil	Improve recycling	Consumers/ Producers	
	Back to using 'old' materials, like wooden toys instead of plastic toys	Less plastic/ Effect on planet	Consumers	
	Simpler administration	Less waste production	Consumers	
Communication and education	Education programmes in school to motivate children to deal with waste responsibly, as early as in nursery school - also parents should educate their children about proper waste management	Awareness	Consumers	☆☆☆☆☆ ☆☆☆☆☆ ☆☆☆☆☆ ☆
	Organising presentations/ public discussions to raise general awareness about the problems of urban waste	Awareness of negative effects	Consumers	☆☆☆☆☆
	Media commercials about the negative consequences of the waste problems on the environment, particularly aimed at children	Awareness of negative effects	Consumers	☆☆☆
	Somehow ensure that people consume more consciously	Behaviour change	Consumers	☆☆☆
	Student exchange programmes to countries where the waste system works well to teach Hungarian children how to separate and deal with waste responsibly	Awareness of possibilities/ Behaviour change	Consumers	☆☆

Local initiatives	More exchange of used goods, eg garage sales or opening of used goods ("rubbish") shops	Less use of resources	Consumers	☆☆☆
	Start composting garden and kitchen waste	Effective use of waste	Consumers	
	Give food that is still edible to people in the neighbourhood that greatly need it	Less waste production	Consumers	
Other	Maximise the use of solar cells for heating instead of coal, which would produce less ash, and thus less waste	Less waste production	Consumers	☆
	Restrictive provisions[1]	Undefined	Undefined	☆

[1] This idea was not explained in the focus group therefore it was not clear to which category it should belong



Annex 2: Attitudes of citizens from Hungary 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 Hungary.

Question	Answer	%	EU27 Average
Do you think Europe could be more efficient in its use of natural resources?	Yes	91%	87%
	No	2%	5%
	DK/NA*	7%	8%
Do you think that your household is producing too much waste or not?	Yes	28%	41%
	No	71%	58%
	DK/NA*	1%	1%
Do you separate at least some of your waste for recycling or composting?	Yes	77%	89%
	No	22%	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	82%	76%
	Improve separate waste collection at your home	73%	67%
	More information on how and where to separate waste	74%	65%
	Legal obligation to separate waste	51%	59%
	Taxes for waste management	31%	39%
What initiatives would improve waste management in your community?	Better waste collection services	82%	70%
	Stronger law enforcement on waste management	64%	65%
	Make producers pay for collection and recycling of waste	72%	63%
	Make households pay for the waste they produce	33%	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	6%	14%
	To pay proportionally to the quantity of waste you generate	78%	75%
	DK/NA*	16%	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	13%	25%
	Include the cost of waste management in the price of the products you buy	51%	59%
	DK/NA*	36%	16%
Can you estimate what percentage of the food you buy goes to waste?	None	15%	11%
	15% or less	66%	71%
	16% to 30%	12%	13%
	More than 30%	5%	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	60%	62%
	Better information on food product labels, e.g. how to interpret "best before" dates, information on storage and preparation	70%	61%
	Better shopping planning by my household	60%	58%
	Smaller portion sizes available in shops	59%	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	37%	39%
	Rather important	44%	41%
	Rather not important	10%	12%
	Not at all important	8%	6%
	DK/NA*	1%	2%
Are you willing to buy second-hand products?	Yes	65%	68%
Base: all respondents, % of yes			
Would you buy the following products second hand?	Furniture	51%	56%
Base: all respondents, % of yes	Electronic equipment	35%	45%
	Textiles (clothing, bedding, curtains, etc)	42%	36%
What reasons prevent you from buying second-hand products?	Quality/usability of the product	55%	58%
	Health and safety concerns	68%	50%
	Less appealing look of the product	17%	25%
	Afraid of what others might think	2%	5%
Would you buy products made of recycled materials?	Yes	79%	86%
	No	12%	11%
	DK/NA*	1%	3%
What would be the most important factors in your decision to buy products made of recycled materials?	Quality/usability of the product	48%	51%
	Environmental impact of the product	22%	26%
	Price of the product	24%	18%
	Brand/brand name of the product	3%	2%
	DK/NA*	3%	3%
What prevents you from buying recycled products or products containing recycled materials?	Health and safety concerns	49%	44%
	Quality/usability of the product	25%	42%
	No clear consumer information on the recycled product	41%	32%
	Less appealing look of the product	7%	17%
	Afraid of what others might think	1%	5%

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

PALACE OF MIRACLES
BUDAPEST SCIENCE CENTER FOUNDATION
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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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