Interreg Baltic Sea Region

Co-funded by the European Union

CIRCULAR ECONOMY
BALTIPLAST

The BaltiPlast(ic) Diet for everyone: documentation and best practice examples from the BSR

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The project BALTIPLAST co-financed by Interreg Baltic Sea Region helps driving the transition to a green and resilient Baltic Sea region.

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1. Introduction

Introduction

The Baltic Sea Region (BSR) faces a critical challenge in reducing plastic pollution, especially the waste generated by single-use plastics (SUPs) and plastic packaging. This issue not only contributes to environmental degradation but also highlights the need for more effective waste management and circular economy practices across the region. The BALTIPLAST project aims to address this pressing problem by fostering prevention, reduction, and innovation in plastic waste management through collaboration between municipalities, research institutions, NGOs, and businesses.

Group of Activity (G.o.A.) (GoA) 2.4: The Plastic Diet Programme was developed as a key solution within the BALTIPLAST framework. It focuses on empowering households to reduce their plastic consumption through an innovative, task-based programme. This programme combines tools such as the Plastic Inventory Tool, along with educational brochures, workshops, and awareness-raising campaigns, to foster sustainable consumption behaviours. By engaging households directly, this solution aims to create measurable impacts on plastic waste reduction and establish transferable practices adaptable to the diverse cultural and infrastructural contexts within the BSR. Piloting within the BALTIPLAST project refers to the initial implementation phase of the Plastic Diet Programme in selected municipalities across six BSR countries: Helsinki (Finland), Tallinn (Estonia), Valmiera (Latvia), Daugavpils (Latvia), Utena and Kaunas (Lithuania). This phase involved recruiting households, testing the tools and methods, and gathering feedback to refine the programme for broader replication. Piloting was crucial for evaluating the effectiveness of the solutions and understanding country-specific challenges and opportunities. The goal of the piloting phase in the second year was to recruit 30 to 50 volunteers per municipality, organised into groups of 10 to 15 participants over three rounds of recruitment, depending on the size of the town, district, or neighbourhood, thereby engaging these households in our activities. During the piloting phase, the primary focus was on utilizing the Plastic Inventory Tool as the main instrument to measure plastic reduction in households. This approach ensured that the results of our efforts were both measurable and transferable across the participating countries. The Environmental Center for Administration and Technology (ECAT) and a Lithuanian NGO facilitated household recruitment in Kaunas and Valmiera. The Swedish Consumers Association (SCA) oversaw household piloting in Västerås, while the Baltic Environmental Forum Latvia (BEF Latvia) supported recruitment efforts in Latvia. Similarly, the Baltic Environmental Forum Germany e.V. (BEF Germany) managed the piloting activities in Hamburg.

This deliverable consolidates the findings from the piloting phase, presenting an overview of activities and outcomes in each municipality, and documenting best practices and lessons learned. By addressing the strengths, limitations, and potential adaptations needed, this

report provides a foundation for scaling and transferring the Plastic Diet Programme across the region.

1.1 Solution description

Our solution proposed for households is named "The Plastic Diet Programme" as it consists of a task-based programme with tips and tricks fostering behaviour change regarding consumption patterns of SUP plastic and plastic packaging.

The Plastic Inventory Tool, which is the tool used for the implementation of the plastic diet programme, proved to be a useful tool for measuring consumption and reduction of plastic, however, we developed complementary tools to enhance awareness. These instruments are the DIY plastic reduction guide, education materials, workshops, events and the plastics inventory tool. Our awareness-raising programme will include a task-based programme, with tips and tricks fostering behavioural change. The experience of our project partner Swedish Consumer Association (SCA), which has already implemented such a programme in Sweden, became our role model to some extent. The Plastic Tool has some limitations but is basically suitable for achieving our solution. For the replication phase, when we will bring our solution to a broader audience, some adaptations to the tool will be done from the experience obtained from the piloting phase.

1.2 Solution development and implementation process

The Plastic Diet Programme was developed to address single-use plastic (SUP) and packaging waste by empowering households to reduce their consumption. At the heart of the programme is the Plastic Inventory Tool, which measures and tracks plastic waste reduction (https://baltiplast.check-ed.eu/en/). After a short quiz about personal plastic knowledge, the user is directed to a page to measure individual plastic waste, residual waste (which partly consists of plastic waste) and the number of empty plastic bottles collected per week. If data is entered on a regular basis, the tool allows you to track the personal progress of your plastic-reduction journey. The tool is complemented by a DIY Plastic Reduction Guide, educational materials, workshops, and events, all designed to raise awareness and foster sustainable behaviour. Drawing inspiration from successful initiatives like those by the Swedish Consumer Association (SCA), the programme integrates diverse tools that are tailored to varying cultural and infrastructural contexts across the Baltic Sea Region.
During the piloting phase, the Plastic Inventory Tool proved effective in visualising reductions in plastic waste. While demonstrating its replicability, the tool shows areas for country-specific adaptation to be successfully brought into broader societal use. Thus, in the replication phase, each participating country will refine its version of the programme to address the country-specific needs of local target groups. This includes modifying the tool

and reviewing the plastic reduction guide (GoA 1.5) of year 1 to better align with national characteristics and consumer behaviour.
The replication process will build on the Plastic Reduction Guide developed in the first year (GoA 1.5) and incorporate insights from the piloting phase in the second year. While further engaging NGOs, community stakeholders and project partners like the SCA for effective knowledge transfer, each country will create a tailored implementation strategy.

2. Waste management and transnational collaboration

Waste management practices across the Baltic Sea Region (BSR) vary significantly, influenced by cultural, legislative, and infrastructural factors. To establish a baseline for further analyses, the project explored these variations, focusing on waste separation systems, public awareness levels, and policy frameworks in each participating country.
Throughout the project, transnational collaboration among partners was pivotal. Regular exchanges started in WP1, during which recruitment methods and strategies for addressing target groups were discussed and trialled. Emphasis was placed on adapting the Plastic Inventory Tool to suit country-specific needs. Lessons learned from these exchanges helped ensure that the tool and programme remained relevant and effective across different national contexts, creating a foundation for the replication phase.

Finland:

- Low recycling rates despite organised systems and mandatory plastic collection.
- Deposit system success for bottles and cans, culturally ingrained.
- Challenges: confusion over separation, insufficient recycling capacity, limited engagement.

Estonia:

- Underutilized waste management due to low public engagement and awareness.
- Deposit system established for PET bottles since 2009.
- Reusable food packaging adoption is mandatory at events starting 2024 but remains limited overall.

Lithuania:

- Advanced waste sorting initiatives, supported by EU regulations and public education campaigns.
- Deposit system success for bottles since 2016.
- Challenges: widespread non-compliance and gaps in public participation despite infrastructure improvements.

Latvia:

- Waste sorting challenges due to lack of understanding and limited infrastructure.
- Inefficiencies: mismanagement and scepticism about the impact of sorting due to logistical issues at recycling facilities.
- Educational initiatives are emphasized to instil proper waste management habits.

Sweden:

- Strong recycling culture, but only 10% of plastic is recycled into new products.
- Recent reforms shifted packaging collection responsibility to municipalities (2024), expected to improve outcomes.

Germany:

- Waste management varies by state, e.g., Hamburg allows all plastics in yellow bins, while other states exclude non-packaging plastics.
- Legal frameworks differ, impacting comparability of data and practices across federal states.

3. Activities and assessment per municipality

The status of the evaluation results of the data from the Plastic ´Tool is Friday, 6th December 2024.

Disclaimer: In individual cases, there may be a discrepancy between the number of personally recruited households and the number of households that used the tool and surveys. This is due to the described hurdle of anonymizing the tool data. The intersection of personal interviews and actual use is therefore difficult to understand.

3.1 Finland (Helsinki)

3.1.1 Recruitment approach/activities

The activity was conducted in two parts: Influencer campaign via social media, and campaign for the City of Helsinki employees within the Urban Environment Division.

3.1.2 Description of tested communication methods

- Influencer campaign:
    - Two Instagram influencers were recruited for the campaign: one specializing in littering issues in Helsinki and the other focusing on environmental topics and chemical exposure.
    - During the initial meeting, the BALTIPLAST project was introduced along with the campaign's goals and limitations.

- In April, the influencers published their first reel, launching the "BALTIPLAST Plastic Challenge." They introduced the campaign, encouraged households to participate, and took part in the challenge themselves.
- Throughout the campaign, the influencers posted weekly—or more frequently—sharing updates, engaging with their audiences, and providing information on plastic-related issues and tips for reducing plastic use.
- After six weeks, they concluded the campaign with a "lessons learned" post. Additionally, a report video was produced for potential future use.

- City of Helsinki employees:
  - At the end of September, the employee Kati hosted a 30-minute “info quarter” on the project and plastic issues, open to all 1,600 employees in the Urban Environment Division. 228 people attended online, with active chat discussions indicating the topic's relevance. The webinar included instructions for joining the Plastic Challenge.
  - A dedicated Teams channel for the BALTIPLAST Plastic Challenge was created to share tips and information with participants.
  - Additional participants were recruited at a wellbeing fair held in the Urban Environment office.
  - During the first round, the influencers actively participated in the Plastic Challenge, reflecting on their own plastic usage for a month. This provided valuable insights and emphasized the importance of the topic to the audience.
  - In the second round, targeted at Urban Environment Division employees, participants were recruited during the “Wellbeing at the Office” event.

3.1.3 Description of user-feedback

- Most participants showed interest in the challenge, the plastic reduction tips, and the discussions surrounding it. While the topic is highly relevant and many are eager to reduce plastic use, they often face challenges due to limited alternatives in grocery stores and cafes.
- Some participants noted that the tool itself did not significantly enhance the challenge. The most valuable feature appeared to be the plastic reduction tips included within the tool. Suggestions for improving the tool included:
  - Generating more graphs based on longer time periods.
  - Providing insights on how an individual's plastic usage compares to the average within their reference group.

3.1.4 Documented cases – photos, videos, graphs

Figure 1: Explaining Baltiplast and recruitment (Copyright: City of Helsinki)

see from left to right:

Figure 2: learning about plastic consumption and our Baltiplast programme, Helsinki (Copyright: City of Helsinki)

Figure 3: awareness campaign for the recruitment of households, Helsinki, (Copyright: City of Helsinki)

Figure 4: interactive learning during the recruitment of households, Helsinki (Copyright: City of Helsinki)

3.1.5 Compilation of answers of consumer surveys

The number of interested and initially registered households was higher, but 44 different households ended up using the tool. During the autumn campaign, six households answered the background information survey.

Of the six households that provided background information, most were households with only adults (single, couple or adult family), with 2-3 people. Only two families with children participated. Most were apartment houses. In the City of Helsinki campaigns, no specific numbers for reduced plastic packaging were measured.

In Finland, 6 people answered to the first survey. Things that might affect certain answers: Answers come from people working in the Urban Environment Division in Helsinki, which is a good information base. In total, 13 people used the tool during the 4-week campaign.

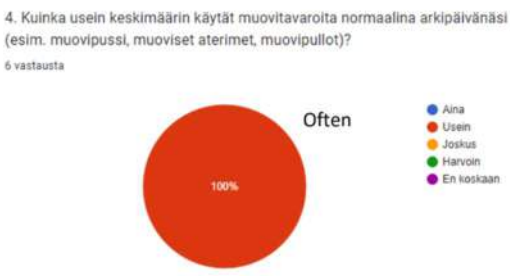


Figure 5: Frequency of use of plastic items, Helsinki (Copyright: City of Helsinki)

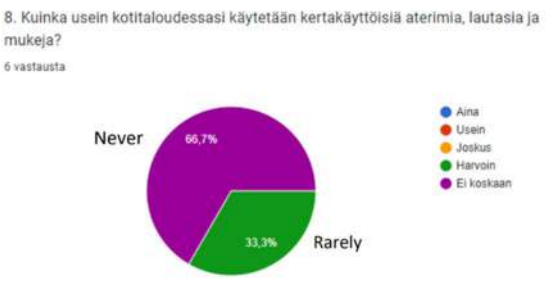


Figure 6: Frequency of use of disposable cutlery, plates or cups, Helsinki (Copyright: City of Helsinki)

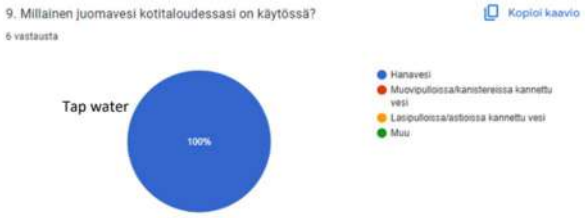


Figure 7: Distribution of the use of the type of water, Helsinki (Copyright: City of Helsinki)

Figure 8: Distribution of options to minimize the consumption of plastic, Helsinki (Copyright: City of Helsinki)

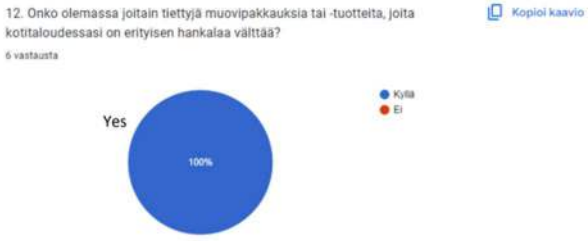


Figure 9: Household distribution of hard-to-avoid plastic items, Helsinki (Copyright: City of Helsinki)

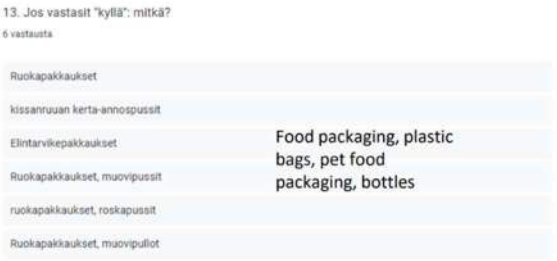


Figure 10: Examples of plastic items that are difficult to avoid, Helsinki (Copyright: City of Helsinki)

Regarding the follow-up survey, we received answers from 4 people.
Graph number 6 is not applicable.

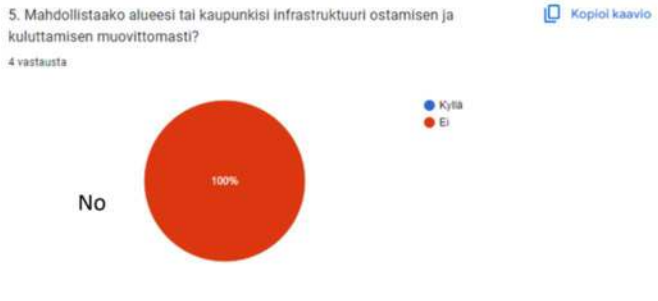


Figure 11: The influence of infrastructure on plastic-free shopping, Helsinki (Copyright: City of Helsinki)

Figure 12: observed changes in plastic consumption behavior, Helsinki (Copyright: City of Helsinki)

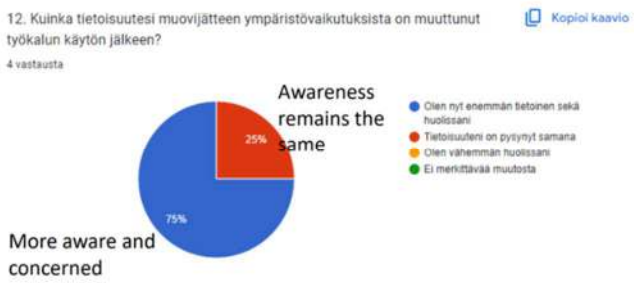


Figure 13: influence of the toll on awareness of the environmental impact of plastic waste, Helsinki (Copyright: City of Helsinki)

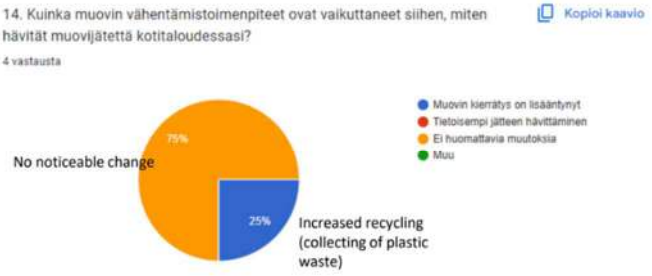


Figure 14: influence of the plastic reduction measures on the way how to dispose plastic waste, Helsinki (Copyright: City of Helsinki)

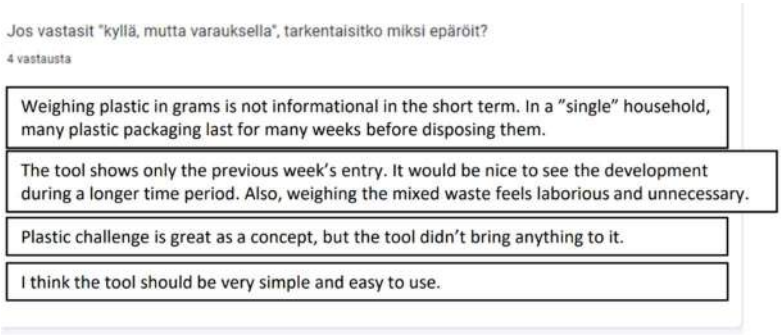


Figure 15: plastic tool feedback, Helsinki... (Copyright City of Helsinki)

Preliminary survey

A total of six people took part in the survey in Finland. Of the six people, 100% often use plastic items on a normal day. 2/3 never use disposable cutlery, plates or cups. The remaining third only rarely. No household uses store-bought plastic or glass bottles, all use tap water. 66.7% would prefer the “one-fits-all” solution to reduce takeaway plastic consumption, 66.7% would be in favour of making reusable crockery and cutlery mandatory everywhere and 33.3% see discounts for “bring your own” as the best solution. Of the 6 participants, 100% have certain plastic items that are difficult to avoid. Among these plastic items are: Plastic bags, food packaging, pet food packaging and bottles.

Follow up survey

4 people took part in the follow-up survey. 100% think the infrastructure of their city does not allow plastic-free shopping. The most perceived change in terms of plastic consumption behaviour with 75% was that plastic materials that encounter food were reduced. In addition, 50% were also able to reduce hygiene and cosmetic products containing plastic. 50% were also able to reduce single-use plastic bottles and 25% have reduced their overall plastic consumption. 75% of all participants are more aware and concerned about the impact of plastic waste since using the tool. And for 15% , awareness has remained the same. In addition, 25% have recycled more because of the plastic avoidance measures, but 75% have not seen any change.

3.1.6 Evaluation of the results on the use of the plastic tool

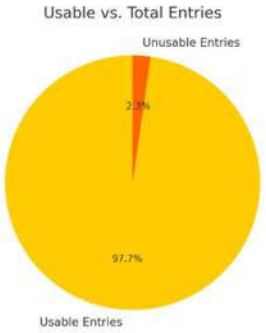


Figure 16: plastic tool usable vs total households, Helsinki (Copyright: City of Helsinki)

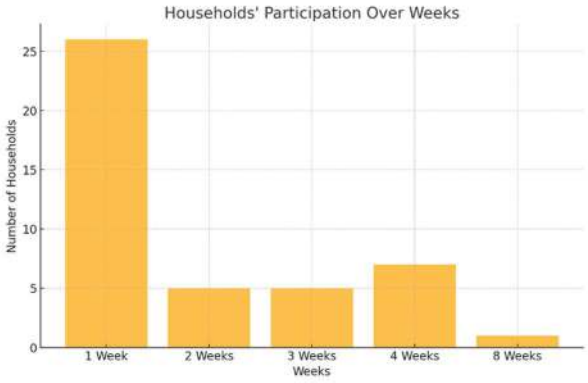


Figure 17: plastic tool participation duration, Helsinki (Copyright: City of Helsinki)

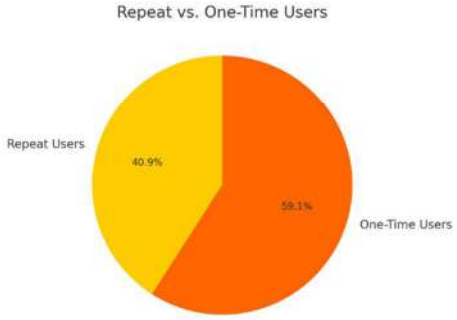


Figure 18: plastic tool repeat vs one-time users, Helsinki (Copyright: City of Helsinki)

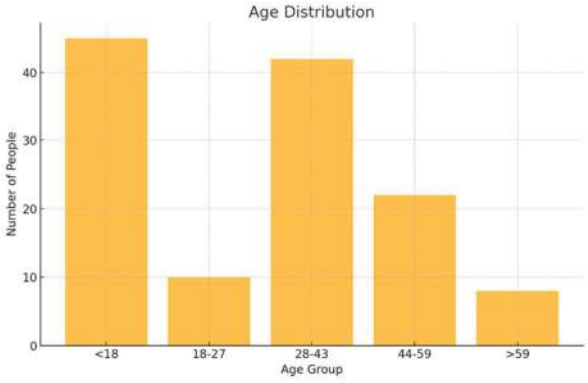


Figure 19: plastic tool age distribution, Helsinki (Copyright: City of Helsinki)

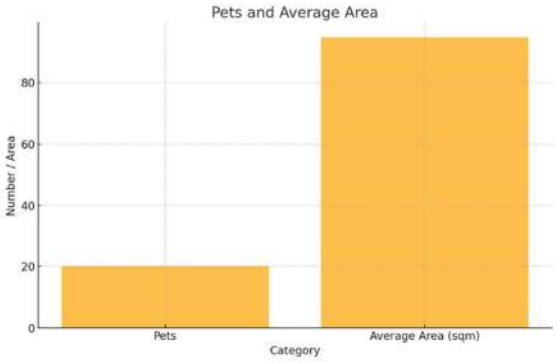


Figure 20: plastic tool pets and average area, Helsinki (Copyright City of Helsinki)

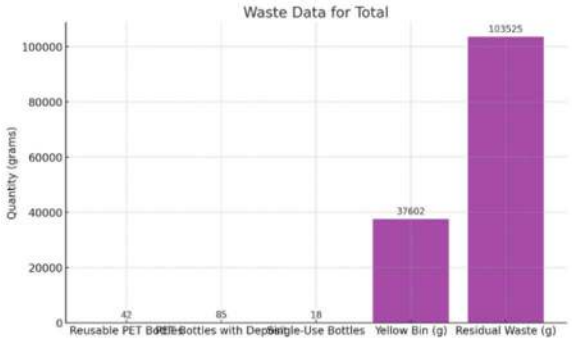


Figure 21: plastic tool total waste data, Helsinki (Copyright: City of Helsinki)

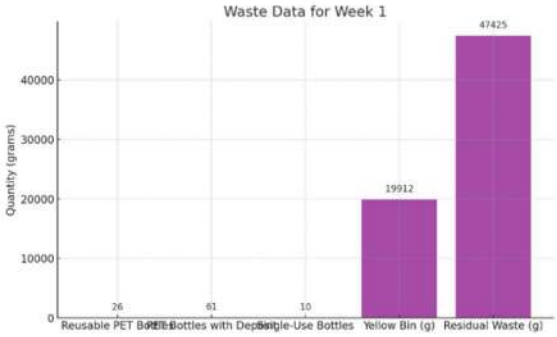


Figure 22: plastic tool waste data week 1, Helsinki (Copyright: City of Helsinki)

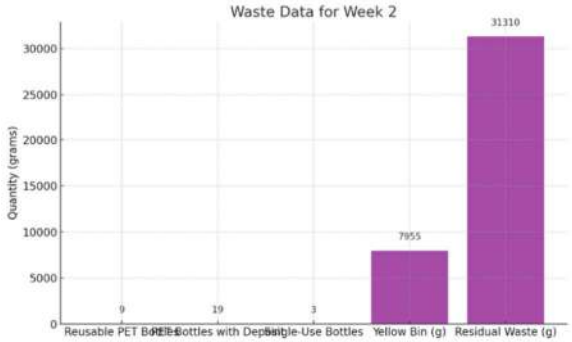


Figure 23: plastic tool waste data week 2, Helsinki (Copyright: City of Helsinki)

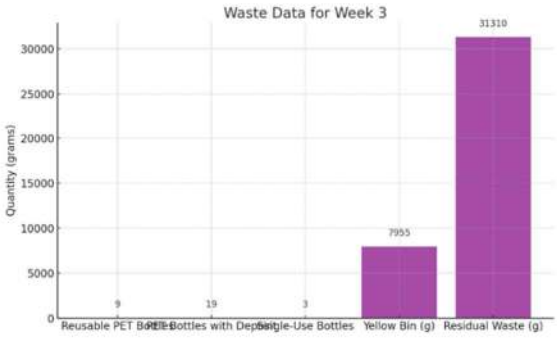


Figure 24: plastic tool waste data week 3, Helsinki (Copyright: City of Helsinki)

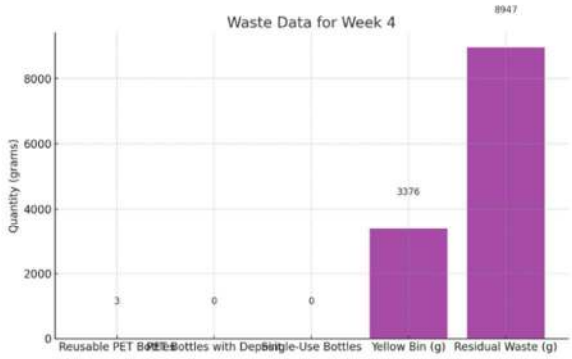


Figure 25: plastic tool waste data week 4, Helsinki (Copyright: City of Helsinki)

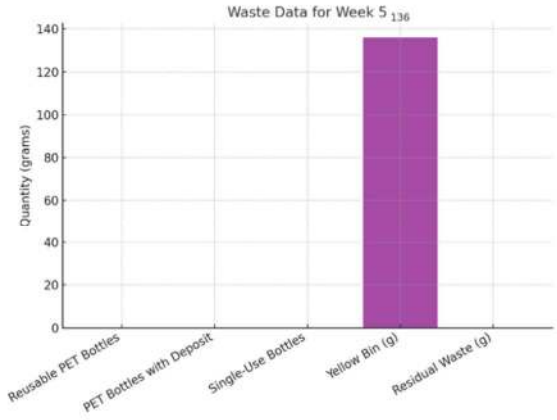


Figure 26: plastic tool waste data week 5, Helsinki (Copyright: City of Helsinki)

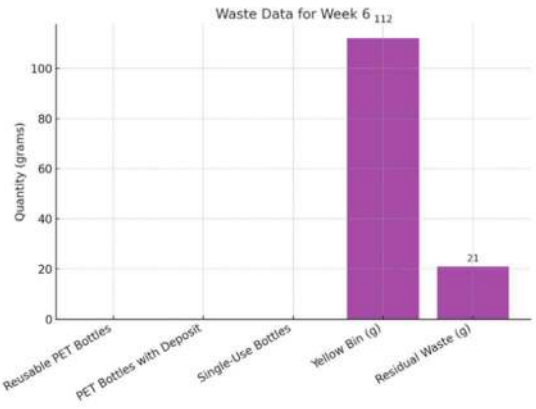


Figure 27: plastic tool waste data week 6, Helsinki (Copyright: City of Helsinki)

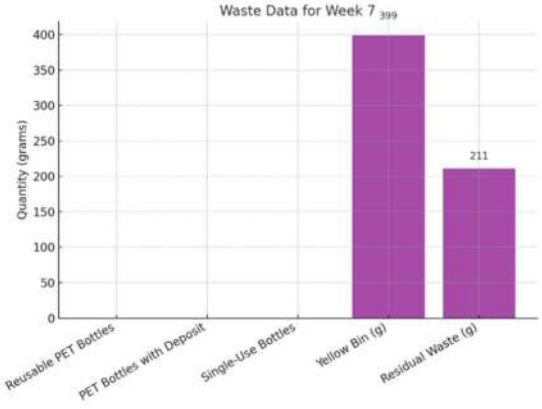


Figure 28: plastic tool waste data week 7, Helsinki (Copyright City of Helsinki)

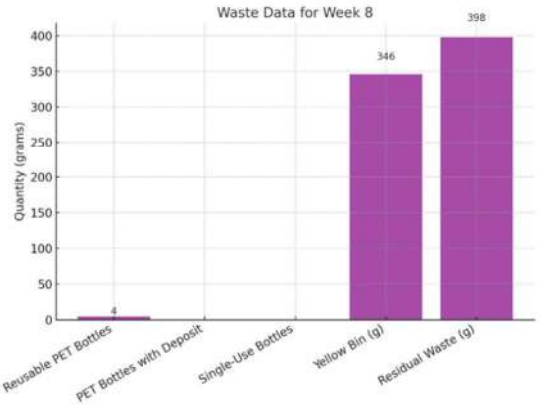


Figure 29: plastic tool waste data week 8, Helsinki (Copyright City of Helsinki)

Of all entries in the tool, 97,7 % were usable and provided analysable data. Of this proportion, 100 % of households were analysable. Less than 30 households participated for one week. Of the 44 households involved, 5 used the tool for a second week, 5 for a third week, 7 for a fourth week and even one used the tool for eight weeks.

This means that 59,1 % used the tool only once and 40,9 % used it more than once. Most households have more than one person living in them. Among these people, the groups of <18-year-olds and 28-43-year-olds are the most strongly represented. On average, households live on just under 100 square metres, all 44 households have a total of 20 pets. The total weight of waste from the yellow bin per household amounts to 37,602 grams, that of waste from the black bin to 103,525 grams.

In week 1, the total weight of waste in the yellow bin of all participants of all participating households was 19,912 grams, in week 2 it was 7,955 grams, in week 3 it was 5,366 grams, in week 4 it was 3,376 grams, in week 5 it was 136 grams, in week 6 it was 112 grams, in week 7 it was 399 grams, in week 8 it was 346 grams.

The weight of waste in the black bin was as follows: In week 1 there were 47,425 grams, in week 2 it was 31,310 grams, in week 3 it was 15,213 grams, in week 4 it was 8,947 grams, in

week 5 it was 0 grams, in week 6 it was 21 grams, in week 7 it was 211 grams, in week 8 it was 398 grams.

3.2 Estonia (Tallinn)

3.2.1 Recruitment approach/activities

- At the beginning of the campaign an event was held where local people were introduced to the inventory tool and the whole "Plastic Diet" campaign. The household inventory pilot was also introduced to businesses pilot participants during the kick-off meeting on 22nd of March 2024. The meeting was recorded and sent to all participants who could not join the live meeting.
- Furthermore, we sent out different e-mails to all kinds of environmentally related communities with the help of SEI Tallinn.
- Monitoring of the results was done through Excel results that were provided by BALTIPLAST project partner Szymon Graczyk.
- The process lasted for two months, for 8 weeks, every week the households checked their plastic consumption and filled in the inventory tool.
- Experience exchange was only through feedback survey part 1. Survey part 2 was not filled by the participants.

3.2.2 Description of tested communication methods

- Reminders were sent to every household each week by email and using social media. For reduction measures we checked the questionnaire and found all the plastic items that are hard to reduce for households, through emails and Facebook posts households were given tips on how they could reduce their plastic waste.
- After the campaign ended some people shared their experiences and if and how they were able to reduce their single-use plastic consumption.

3.2.3 Description of user-feedback

User feedback was filled only in survey part 1. Survey part 2 was not filled with by the participants.

3.2.4 Documented cases - photos, videos, graphs

- We can't directly contact the participants, because they filled in the data without leaving the contact information (because of the GDPR legislation).
- Screenshots of the businesses kick-off meeting. We also introduced the household pilot opportunity.

Figure 30: Introductory presentation of BaltiPlast and its partners, Tallinn (Copyright: City of Tallinn)

Figure 31: presentation of the pilot project and the role of households, Tallinn (Copyright: City of Tallinn)

Full video:
https://tallinn-my.sharepoint.com/personal/mikk-erik_saidla_tallinnlv_ee/_layouts/15/stream.aspx?id=%2Fpersonal%2Fmikk%2Derik%5Fsaidla%5Ftallinnlv%5Fee%2FDocuments%2FRecordings%2FJ%C3%A4%C3%A4tmealane%20koolitus%20ja%20BaltiPlasti%20projektis%20osalemisest%2D20240322%5F123421%2DMeeting%20Recording%2Emp4&referrer=StreamWebApp%2EWeb&referrerScenario=AddressBarCopied%2Eview%2Ee3dcd220%2D89a4%2D4fc7%2D9237%2D0f73c25b7e83

3.2.5 Compilation of answers of consumer surveys

- Compilation of quantified results (e.g. total households recruited per city, demographics, background household situation, number of reduced single-use plastic packages at household). Tallinn wants to get all the data that was collected during the household pilot. We have got only the answers from the first questionnaire (50 participants).
- It should be analysed what are the main reasons for people not to answer the surveys or to use the tool.

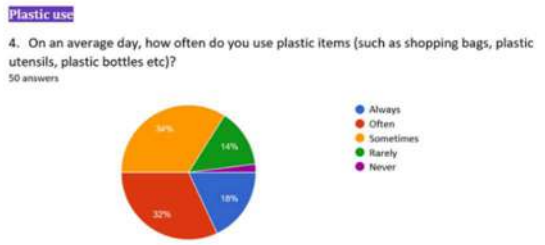


Figure 32: Frequency of use of plastic items, Tallinn (Copyright City of Tallinn)

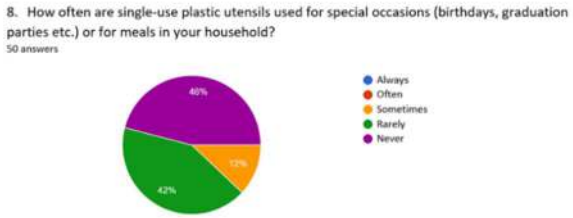


Figure 33: Frequency of use of disposable cutlery, plates or cups, Tallinn (Copyright: City of Tallinn)

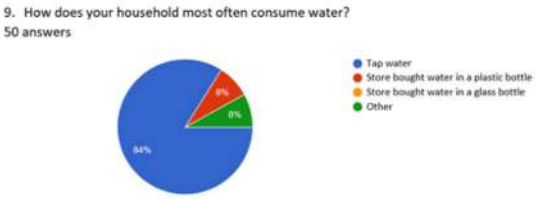


Figure 34: Distribution of the use of the type of water, Tallinn (Copyright: City of Tallinn)

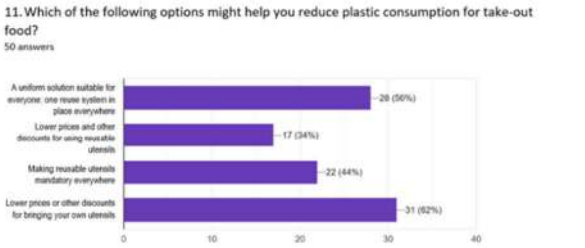


Figure 35: Distribution of options to minimize the consumption of plastic, Tallinn (Copyright: City of Tallinn)

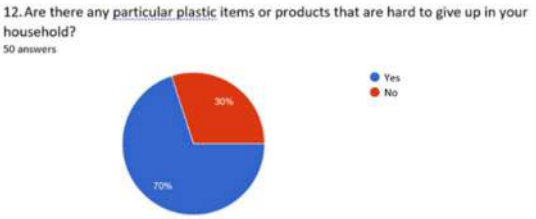


Figure 36: Household distribution of hard-to-avoid plastic items, Tallinn (Copyright: City of Tallinn)

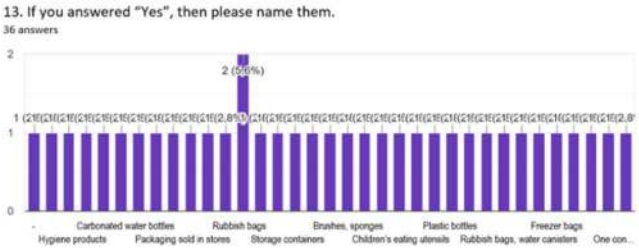


Figure 37: Examples of plastic items that are difficult to avoid, Tallinn (Copyright: City of Tallinn)

Preliminary survey

A total of 50 people took part in the survey in Estonia. Of the 50 people, 18% always use plastic items on a normal day, 32% often use plastic items, 34% sometimes and the remaining 16% rarely or never. Almost half never use disposable cutlery, plates or cups. 42% rarely use it and 12% sometimes. 84% of households do not use purchased plastic or glass bottles but use tap water. 8% buy plastic bottles and 8% neither tap water nor plastic bottles or glass bottles. When asked which the best solution is to reduce takeaway plastic consumption, most people voted for “bring your own” discounts with 62%. Close behind with 56% was “one-fits-all”. Of the 50 participants, 30% do not have specific plastic items that are difficult to avoid, while 70% do. Among these plastic items are: Plastic bags, plastic bottles, sponges, freezer bags, bin liners, hygiene products, storage jars etc.

Follow up survey

Zero participants for the follow up survey, thus no graphs available.

3.2.6 Evaluation of the results on the use of the plastic tool

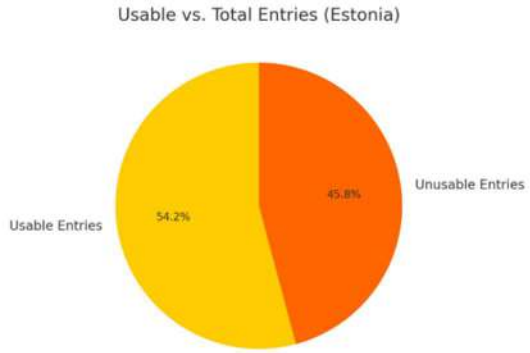


Figure 38: plastic tool usable vs total households, Tallinn (Copyright: City of Tallinn)

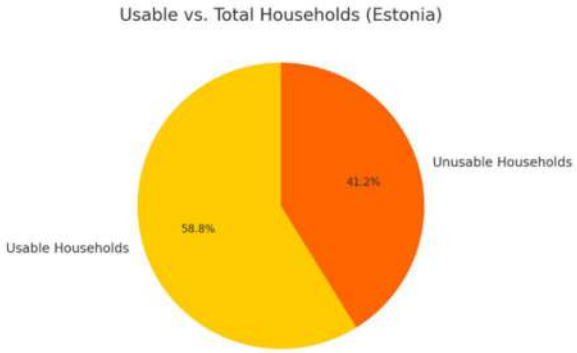


Figure 39: plastic tool usable vs tolas entries, Tallinn (Copyright: City of Tallinn)

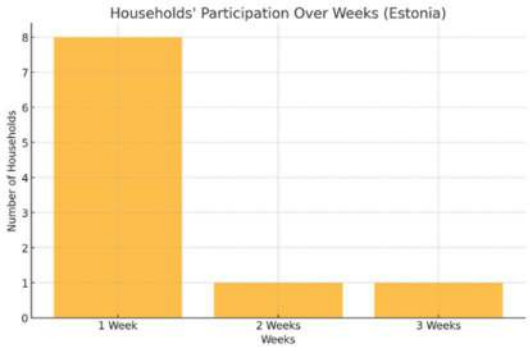


Figure 40: plastic tool participation duration, Tallinn (Copyright: City of Tallinn)

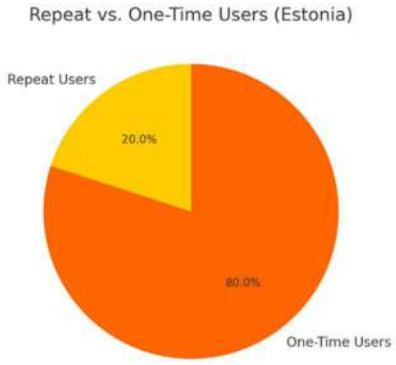


Figure 41: plastic tool repeat vs one-time users, Tallinn (Copyright: City of Tallinn)

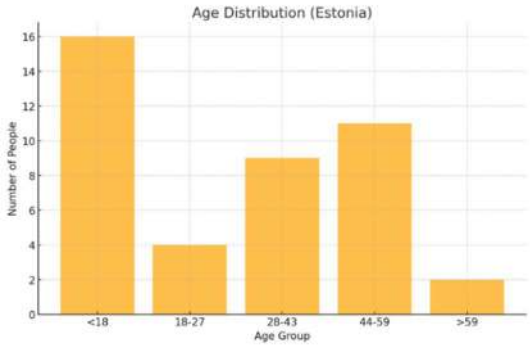


Figure 42: plastic tool age distribution, Tallinn (Copyright: City of Tallinn)

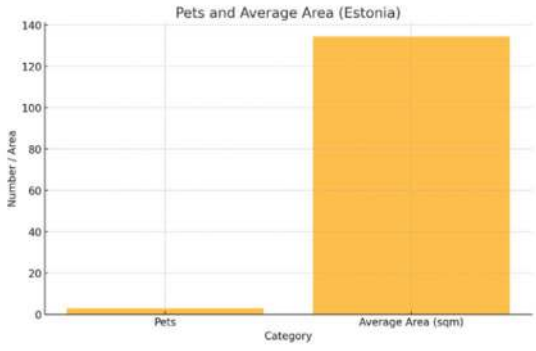


Figure 43: plastic tool pets and average area, Tallinn (Copyright: City of Tallinn)

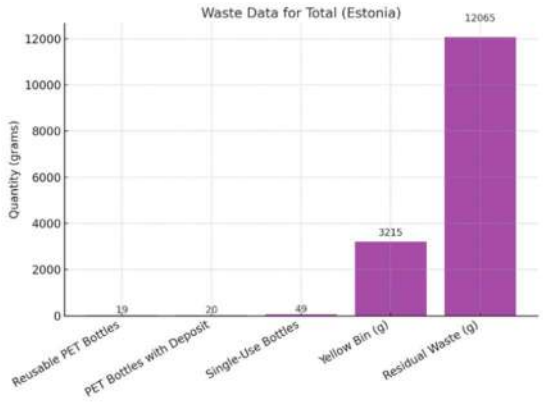


Figure 44: plastic tool total waste data, Tallinn. (Copyright: City of Tallinn)

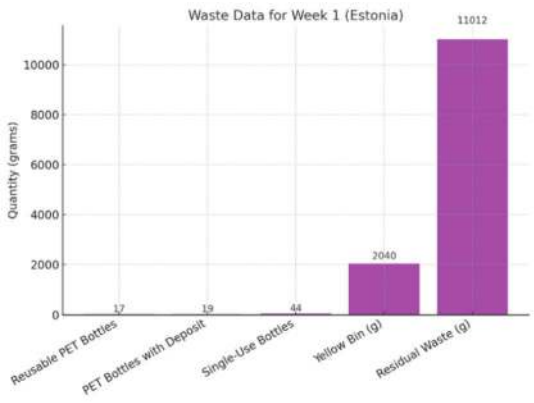


Figure 45: plastic tool waste data week 1, Tallinn (Copyright: City of Tallinn)

Figure 46: plastic tool waste data week 2, Tallinn (Copyright: City of Tallinn)

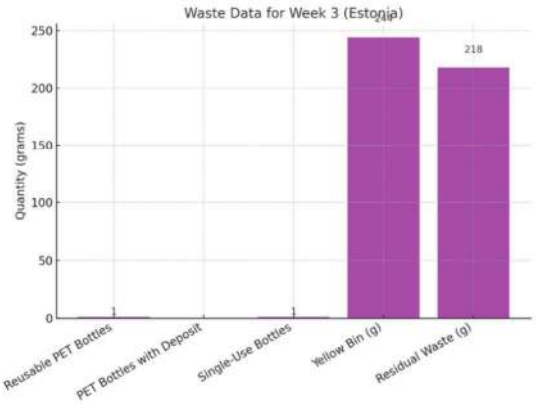


Figure 47: plastic tool waste data week 3, Tallinn (Copyright City of Tallinn)

Of all entries in the tool, 54,2 % were usable and provided analysable data. Of this proportion, 58,8% of households were analysable. 8 households participated for one week. Of the 10 households involved, one used the tool for a second week, and one used the tool for a third weeks.

This means that 80 % used the tool only once and 20 % used it more than once. Most households have more than one person living in them. Among these people, the groups of <18-year-olds and 44-59-year-olds are the most strongly represented. On average, households live on just over 130 square metres, all 10 households have a total of 3 pets. The total weight of waste from the yellow bin per household amounts to 3,215 grams, that of waste from the black bin to 12,065 grams.

In week 1, the total weight of waste in the yellow bin of all participants was 2.040 grams, in week 2 it was 931 grams, in week 3 it was 244 grams.

The weight of waste in the black bin was as follows: In week 1 there were 11.012 grams, in week 2 it was 835 grams, in week 3 it was 218 grams.

3.3 Lithuania (Kaunas and Utena)

3.3.1 Recruitment approach/activities

Kaunas

- The project commenced on 03/10/2024, focusing on engaging household representatives as participants.
- Key activities during the launch included:
  - Introducing participants to the project's objectives and methodology.
  - Distributing scales and data recording sheets to participating households.
- The first survey was conducted to establish baseline information.
- A schedule was established for a two-month period starting 03/10/2024:
  - Households were tasked with conducting a single-use plastic inventory.
  - Data was collected weekly for analysis.
  - Discussions were held every Thursday to review participation, analyse findings, and explore strategies for reducing single-use plastic consumption.

Utena

- At the beginning of the campaign an event was held where local people were introduced to the inventory tool and the whole “Plastic Diet” campaign. In Utena, the pilot was carried out from 21/06/2024 - 22/08/2024, 20 households have been recruited.
- ECAT bought a service from a local NGO in Utena municipality to help to implement the Plastic Diet campaign in Utena district. This NGO was responsible for organization of local events, recruitment of households and PR activities. ECAT continuously provided all necessary help – consultancy, info material, advice.

Carrying out the inventory:

- The process was called the “plastic diet”, for 8 weeks, every week the households checked their plastic consumption and filled in the inventory tool. Reminders were sent to every household each week by email and using social media.
- Development of the action plan/measures for plastic reduction and prevention (incl. setting reduction targets
- Tips and relevant information were sent by email to every household each week.

PR activities related to the pilot:

- Articles were published in a local digital newspaper: 21/06/2024 – an article introducing the “Plastic Diet” and inviting local households to join the plastic reduction challenge, 21/08/2024– an article which presented the impressions and observations of the households
- Regular posts on social media

Other activities related to the pilot:

- Special info event was held with the goal to introduce households with the "Plastic Diet" and recruit them at the beginning of campaign.
- At the beginning of the campaign an event was held where local people were introduced to the inventory tool and the whole "Plastic Diet" campaign. The process lasted for two months, for 8 weeks, every week the households checked their plastic consumption and filled in the inventory tool.

3.3.2 Description of tested communication methods

Kaunas

- First data entry: 10/10/2024 – Participants logged in and entered household waste data, but some made mistakes that needed correction.
- Interim tool: Created to help project implementers monitor data entry and request additional information if necessary.
- Second data entry: 17/20/2024 – Participants logged in again to enter data.
- Workshops for students: Students sorted and calculated plastic waste, learning about plastic types and the importance of reducing plastic consumption.
- Online events for school communities: Introduced the household inventory tool, stressing the importance of weighing waste bags, counting plastic bottles, and using the interim tool to record data.
- Weekly workshops: Held every Thursday to assist school communities with inventory and waste management issues.

Utena

- Duration: 8 weeks – Households checked plastic consumption and filled in the inventory tool weekly.
- Reminders: Sent via email and social media each week.
- Reduction measures: Analysed a questionnaire to identify hard-to-reduce plastic items; provided reduction tips through email and Facebook.
- Post-campaign feedback: Participants shared experiences on reducing single-use plastic consumption.
- Stakeholder event: Held in Utena to introduce the BALTIPLAST project and inventory tools for businesses and households. Some businesses showed interest in the household Plastic Reduction Campaign.

3.3.3 Description of user-feedback

Utena

- Main difficulties: Issues with the tool mentioned earlier.
- Reactions: Generally positive; households were curious about their plastic consumption and types.
- Challenges: Some noticed that reducing plastic consumption led to higher costs, with cheaper products using more plastic packaging.
- Adoption of tips: Households enjoyed and implemented the reduction tips in daily life.
- Example: A family with a baby reduced plastic waste by switching from store-bought purees to homemade ones and using reusable puree bags.

3.3.4 Documented cases - photos, videos, graphs

Figure 48: interactive workshop with pupils about plastic and its impact on the environment, Kaunas and Utena (Copyright: City of Kaunas and Utena)

Figure 49: interactive workshop with pupils about plastic and its impact on the environment, Kaunas and Utena (Copyright: City of Kaunas and Utena)

3.3.5 Compilation of answers of consumer surveys

Utena

The first questionnaire conducted in Utena, Lithuania, received a total of **20 responses**.

Graph 4 reveals that none of the respondents reported always using plastic items. However, the majority indicated they use them either *often* (40%, 8 households) or *sometimes* (35%, 7 households). A smaller proportion (20%, 4 households) stated they rarely use plastic items, while only one household (5%) reported never using them on a typical day.

Figure 50: Frequency of use of plastic items, Utena (Copyright City of Kaunas and Utena)

Graph 8 illustrates that all households either *rarely* (40%, 8 households) or *never* (60%, 12 households) use disposable cutlery, plates, or cups for meals or meetings.

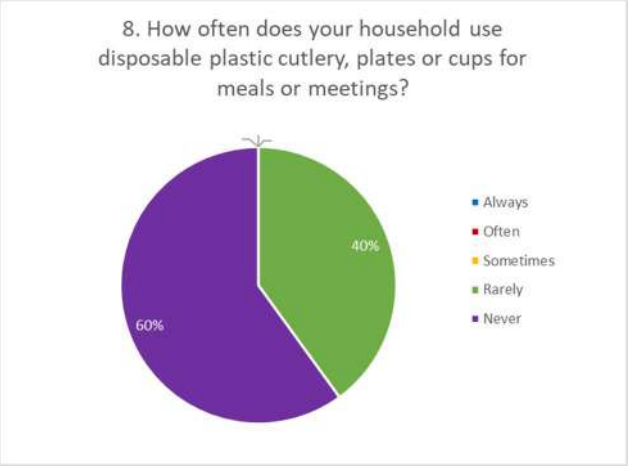


Figure 51: Frequency of use of disposable cutlery, plates or cups, Utena (Copyright City of Kaunas and Utena)

Graph 9 highlights that most households rely on tap water (90%, 18 households), with only 2 households (10%) using water from plastic bottles. For context, plastic bottles are significantly cheaper than glass bottles. Additionally, it's worth noting that in Lithuania, there are no refillable bottles—both plastic and glass bottles are recycled.

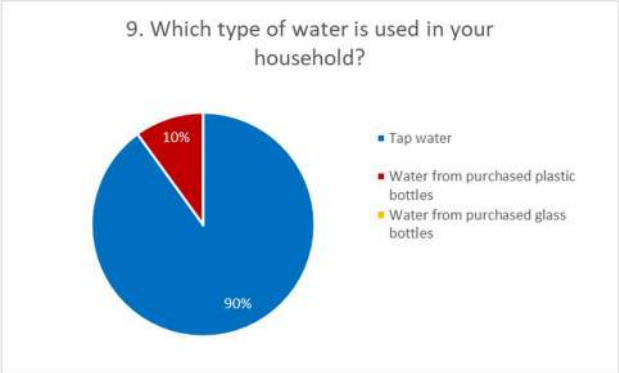


Figure 52: Distribution of the use of the type of water, Utena(Copyright City of Kaunas and Utena)

Graph 11 shows that responses are evenly distributed, except for the “Discounts and other benefits when using reusable cutlery” option, which was prioritized by only one household (5%). A larger share of respondents (35%, 7 households) selected the “One-fits-all” option, likely due to its convenience when returning reusable dishes. Two other options, “Make reusable crockery mandatory” and “Give discounts for ‘bring along,’” received equal support, with 30% (6 households) each.

**An interesting observation from working with a food caterer in Kaunas (plastic inventory for businesses) highlights that while discounts are offered to those who bring their own cups, the uptake has been minimal. This suggests that such incentives may not be as effective as hoped.*

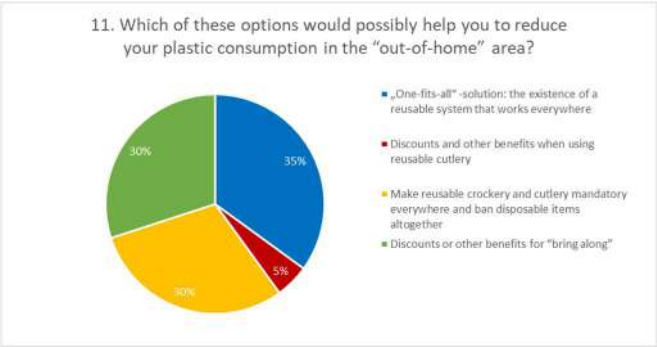


Figure 53: Distribution of options to minimize the consumption of plastic, Utena (Copyright City of Kaunas and Utena)

Graph 12 reveals that 70% of respondents (14 households) find it challenging to avoid certain plastic items.

When asked for clarification (question 13), some responses overlapped. Food packaging was the most mentioned item, noted by 5 households, particularly for prepackaged or vacuum-packed products such as meat, cereal, and berries. Milk and other dairy products were highlighted by 2 households, as were single-use plastic bags, trash bags, and beverage packaging. Additionally, sanitary products like dishwashing and laundry detergents were mentioned by one household.

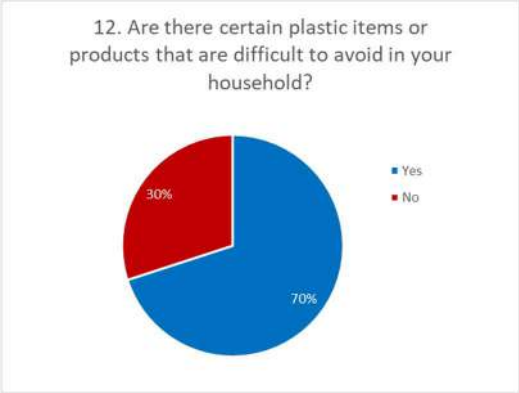


Figure 54: Household distribution of hard-to-avoid plastic items, Utena (Copyright City of Kaunas and Utena)

The second questionnaire received **17 responses**, reflecting the number of households that completed the inventory as previously mentioned.

Graph 5 reveals that the majority of respondents (65%, 11 households) believe that the city's infrastructure does not support plastic-free shopping, while only 6 respondents (35%) think it is possible. Few respondents provided further clarification (question 6). One household noted that avoiding unnecessary plastic packaging requires planning and forethought. Another mentioned that while complete avoidance may be difficult, plastic use can be reduced with effort. One household shared specific examples, such as purchasing food directly from farmers, buying dry shampoo, and solid soap without packaging.

**It's worth noting that Utena currently lacks dedicated zero-waste shops, so most zero-waste options are probably only available online.*

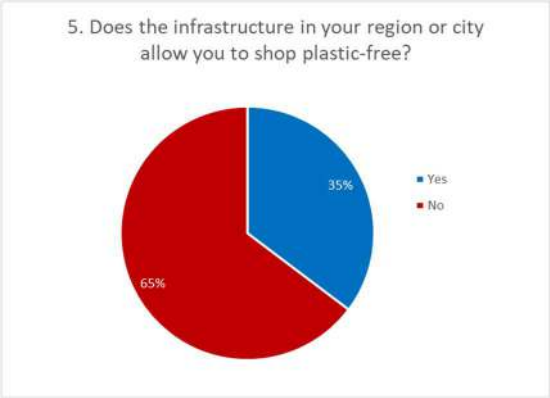


Figure 55: The influence of infrastructure on plastic-free shopping, Utena (Copyright City of Kaunas and Utena)

Regarding question 7, the graph shows that the majority of respondents (82.4%, 14 households) reported reducing plastic food contact materials. Other significant areas of reduction included overall plastic consumption, single-use plastic bottles, and plastic packaging in to-go area, each cited by 76.5% (13 households). The least chosen category was the reduction of plastic products for pets, mentioned by only 5.9% (1 household).

**An observation from working with companies on plastic inventories/reduction suggests that reductions in plastic bottles and single-use cups (also to-go area) are among the most common and manageable changes. This trend likely reflects the relative ease of making similar adjustments at the household level.*

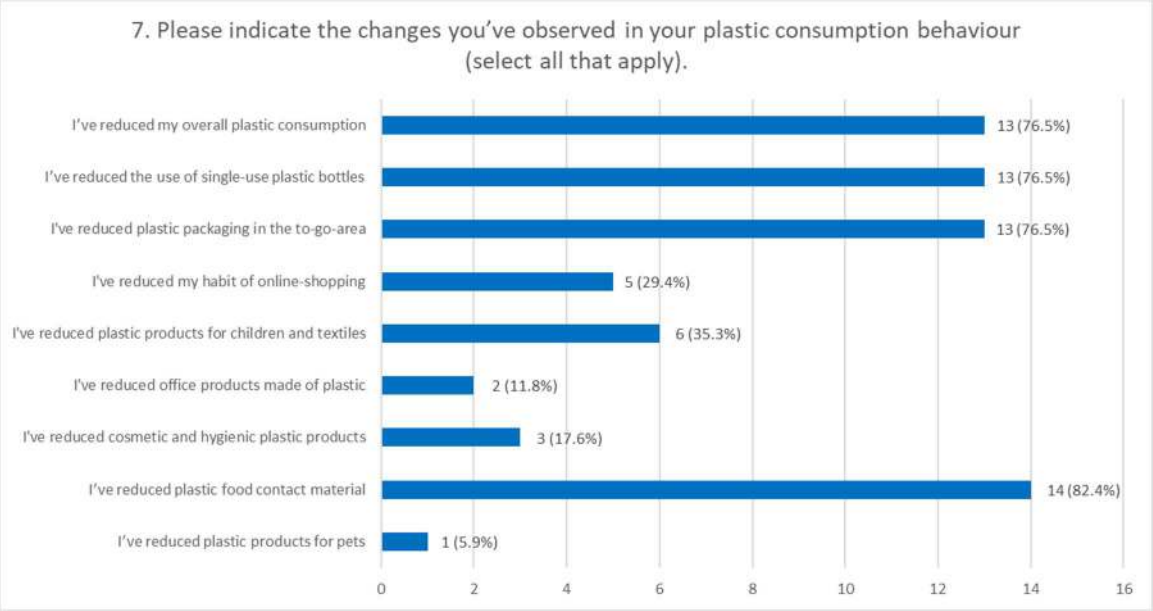


Figure 56: observed changes in plastic consumption behavior (Copyright City of Kaunas and Utena)

Graph 12 indicates that the majority of households (71%, 12 households) reported becoming more aware of the environmental impact of plastic waste after using the tool. For the remaining households, awareness either stayed the same (23%, 4 households) or showed no significant change (6%, 1 household).

Figure 57: influence of the toll on awareness of the environmental impact of plastic waste, Utena (Copyright City of Kaunas and Utena)

Graph 14 reveals that only one household (6%) was not influenced by plastic reduction measures in terms of how they dispose of their plastic waste. The majority (71%, 12

households) indicated that their disposal practices have become more conscious, while a smaller group (23%, 4 households) reported an increase in their recycling efforts.

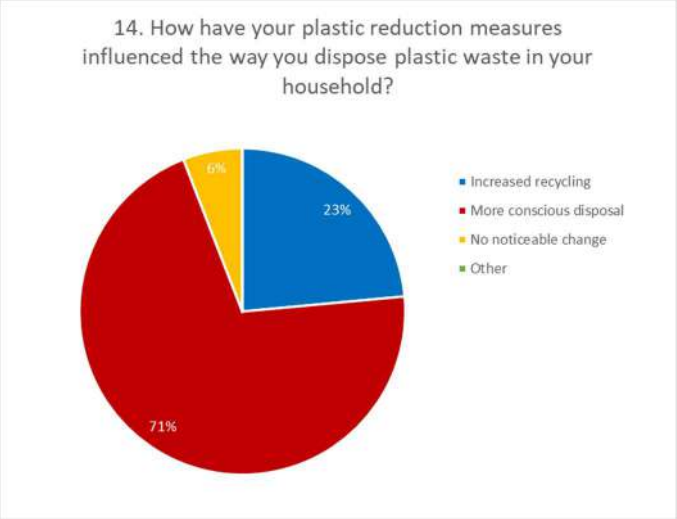


Figure 58: influence of the plastic reduction measures on the way how to dispose plastic waste, Utena (Copyright City of Kaunas and Utena)

Kaunas

The **first questionnaire** conducted in Kaunas city, Lithuania, received total **52 responses**.

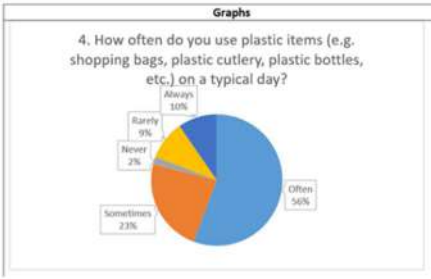
Graphs	Description
	56 % use plastic items often (29 households). 23 % use plastic items sometimes (12 households). 10 % use plastic items always (5 households). 9 % use plastic items rarely (5 households). 2 % never use plastic items (1 household).

Figure 59: Frequency of use of plastic items, Kaunas (Copyright: City of Kaunas and Utena)

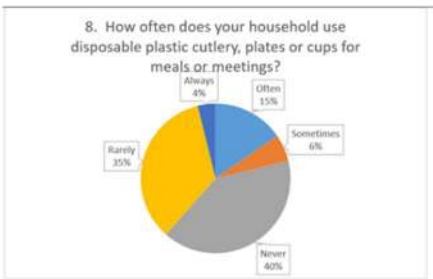
	40 % never use disposable cutlery, plates or cups for meals or meetings (21 households). 35 % use disposable cutlery, plates or cups for meals or meetings rarely (18 households). 15 % use disposable cutlery, plates or cups for meals or meetings often (8 households). 6 % use disposable cutlery, plates or cups for meals or meetings sometimes (3 households). 4 % use disposable cutlery, plates or cups for meals or meetings always (2 households).

Figure 60: Frequency of use of disposable cutlery, plates or cups, Kaunas (Copyright: City of Kaunas and Utena)

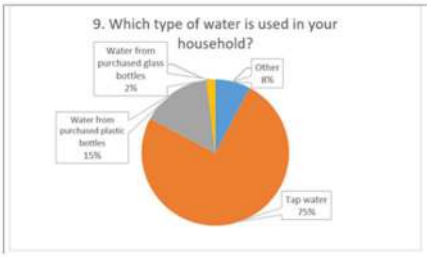
	75 % - drink water from tap (39 households). 15 % - drink water from plastic bottles (8 households). 8 % - other (4 households). 2 % - drink water from glass bottles (1 household).

Figure 61: Distribution of the use of the type of water, Kaunas (Copyright: City of Kaunas and Utena)

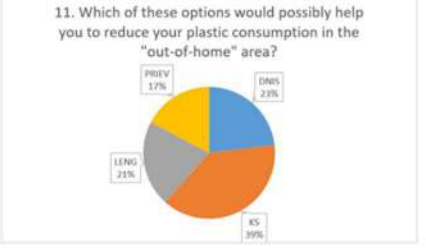
	39 % - KS - Discounts and other benefits when using reusable cutlery (20 households). 23 % - DNIS - "One-fits-all" – solution: the existence of a reusable system that works everywhere (12 households). 21 % - LENG - Discounts and other benefits for "bring along" (11 households). 17 % - PRIEV - Make reusable crockery and cutlery mandatory everywhere and ban disposable items altogether (9 households).

Figure 62: Distribution of options to minimize the consumption of plastic, Kaunas (Copyright: City of Kaunas and Utena)

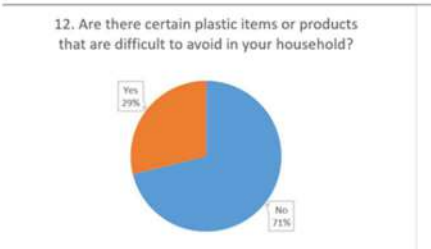
	71 % answer that no (37 households). 29 % answer that yes (15 households). If the answer was „yes", when the respondents asked for clarification (question 13). Food packaging, waste bags, household chemical packaging were the most commonly mentioned items. Also mentioned packaging from ice creams, shopping bags, drinks and electronics.

Figure 63: Household distribution of hard-to-avoid plastic items, Kaunas (Copyright: City of Kaunas and Utena)

The second questionnaire conducted in Kaunas city, Lithuania, received **52 responses** in total.

Graphs	Description
5. Does the infrastructure in your region or city allow you to shop plastic - free? 	All respondents answered "no", so answers to question 6 are not relevant.

Figure 64: The influence of infrastructure on plastic-free shopping, Kaunas (Copyright: City of Kaunas and Utena)

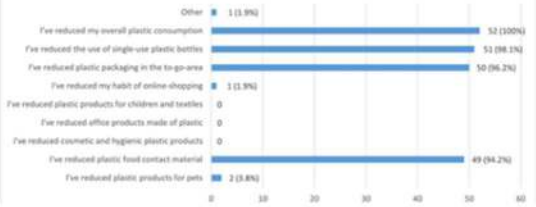
7. Please indicate the changes you've observed in your plastic consumption behaviour (select all that apply). 	All respondents (100 %, 52 households) answered, that they have reduced overall plastic consumption. Majority of respondents (98,1 %, 51 households; 96,2 %, 50 households and 94,2 %, 49 households) have reduced the use of SUP bottles, plastic packaging in the to-go-area and plastic food contact material. Several respondents answered, that they have reduced plastic products for pets (3,8 %, 2 households), habit of online – shopping (1,9 %, 1 household) and other (1,9 %, 1 household).

Figure 65: observed changes in plastic consumption behavior, Kaunas (Copyright: City of Kaunas and Utena)

12. How has your awareness of the environmental impact of plastic waste changed after using the tool? 	All respondents (100 %, 52 households) answered, that they become more aware and concerned about the environmental impact of plastic waste after using the tool.

Figure 66: influence of the toll on awareness of the environmental impact of plastic waste, Kaunas (Copyright: City of Kaunas and Utena)

14. How have your plastic reduction measures influenced the way you dispose plastic waste in your household? 	All respondents (100 %, 52 households) answered, that the recycling of the disposed plastic waste in their households increased.

Figure 67: influence oft the plastic reduction measures on the way how to dispose plastic waste, Kaunas (Copyright: City of Kaunas and Utena)

3.3.6 Evaluation of the results on the use of the plastic tool (Kaunas AND Utena)

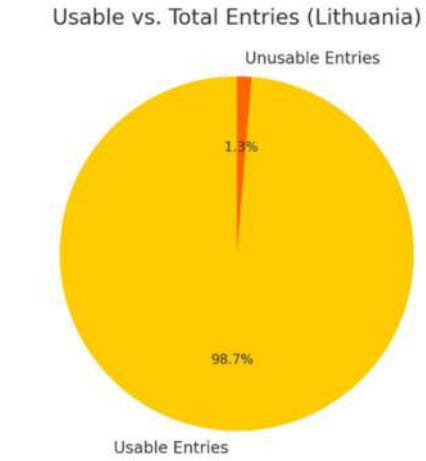


Figure 68: plastic tool usable vs total households, Lithuania (Copyright: City of Kaunas and Utena)

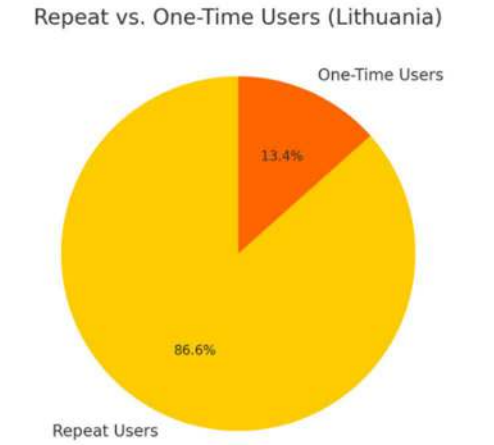


Figure 69: plastic tool usable vs tolas entries, Lithuania (Copyright: City of Kaunas and Utena)

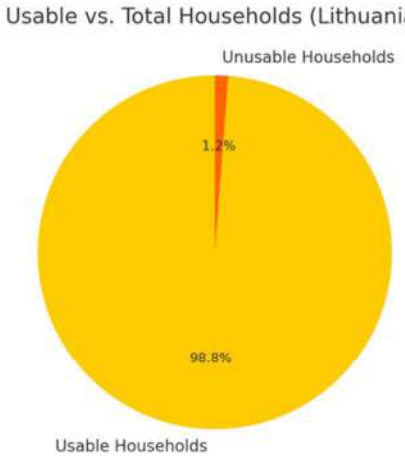


Figure 70: plastic tool participation duration, Lithuania (Copyright: City of Kaunas and Utena)

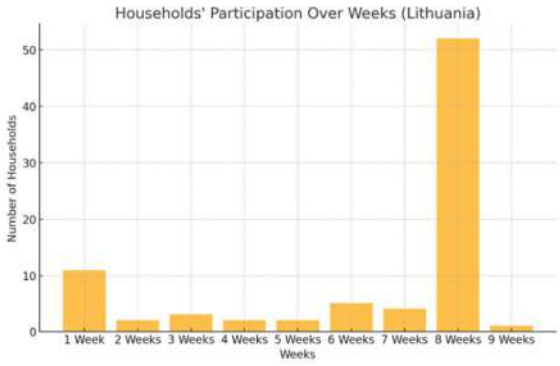


Figure 71: plastic tool repeat vs one-time users, Lithuania (Copyright: City of Kaunas and Utena)

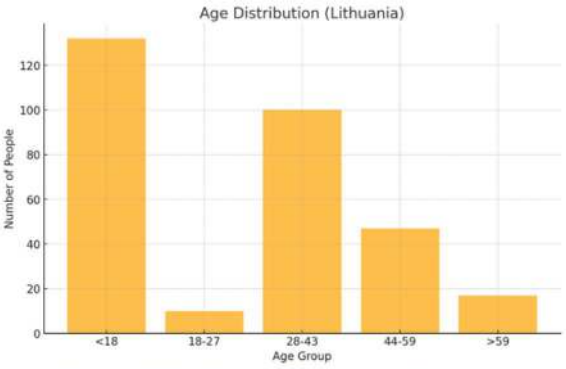


Figure 72: plastic tool age distribution, Lithuania (Copyright: City of Kaunas and Utena)

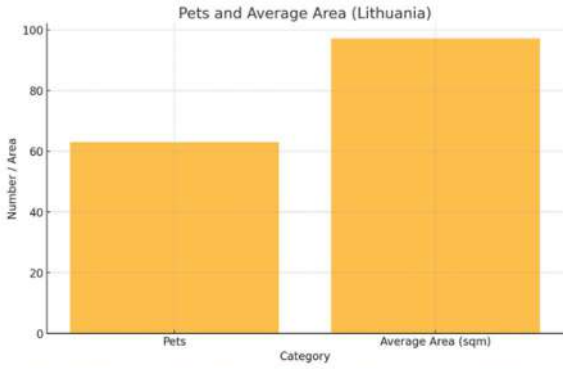


Figure 73: plastic tool pets and average area, Lithuania (Copyright: City of Kaunas and Utena)

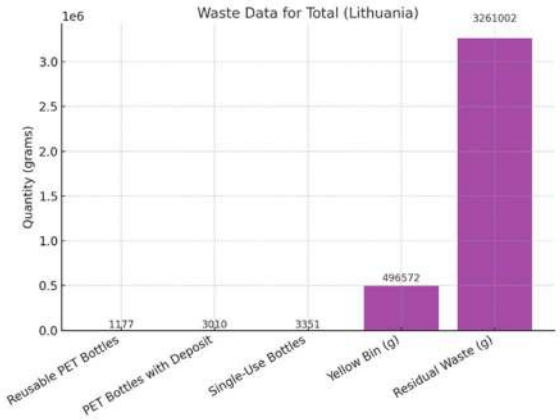


Figure 74: plastic tool total waste data, Lithuania (Copyright: City of Kaunas and Utena)

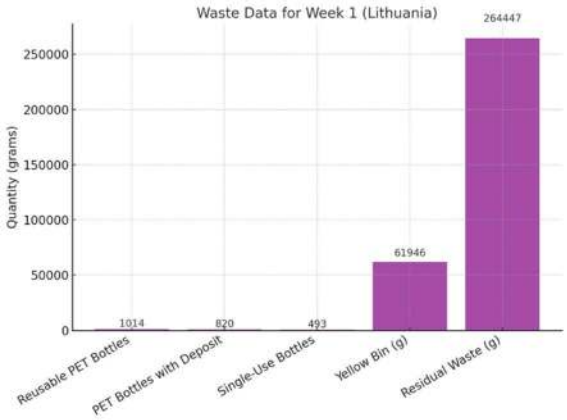


Figure 75: plastic tool waste data week 1, Lithuania (Copyright: City of Kaunas and Utena)

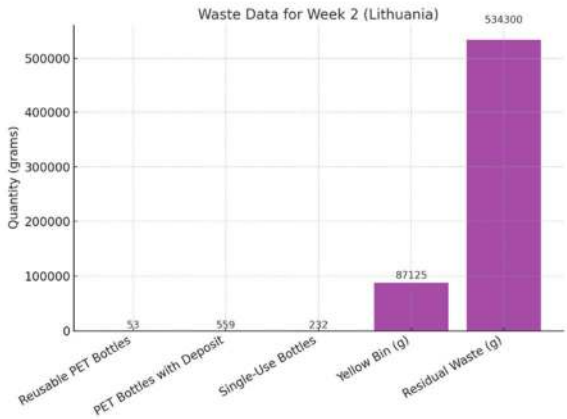


Figure 76: plastic tool waste data week 2, Lithuania (Copyright: City of Kaunas and Utena)

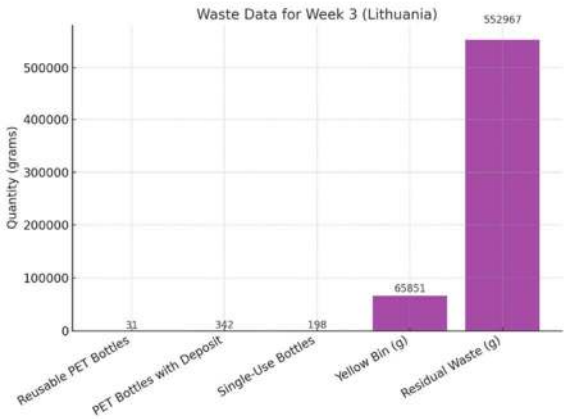


Figure 77: plastic tool waste data week 3, Lithuania (Copyright: City of Kaunas and Utena)

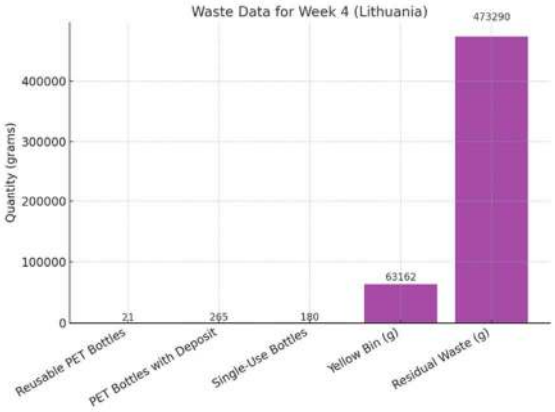


Figure 78: plastic tool waste data week 4, Lithuania (Copyright: City of Kaunas and Utena)

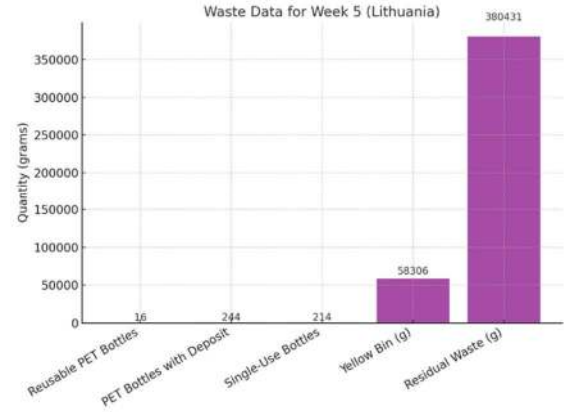


Figure 79: plastic tool waste data week 5, Lithuania (Copyright: City of Kaunas and Utena)

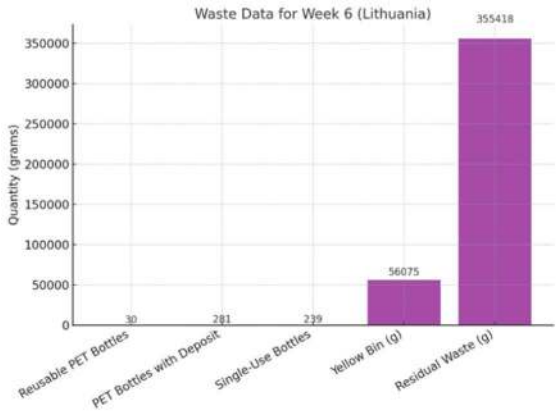


Figure 80: plastic tool waste data week 6, Lithuania (Copyright: City of Kaunas and Utena)

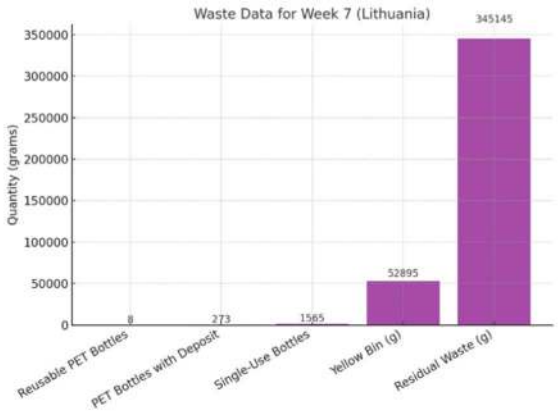


Figure 81: plastic tool waste data week 7, Lithuania (Copyright: City of Kaunas and Utena)

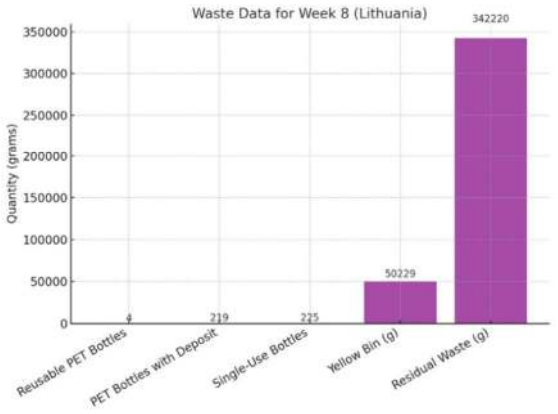


Figure 82: plastic tool waste data week 8, Lithuania (Copyright: City of Kaunas and Utena)

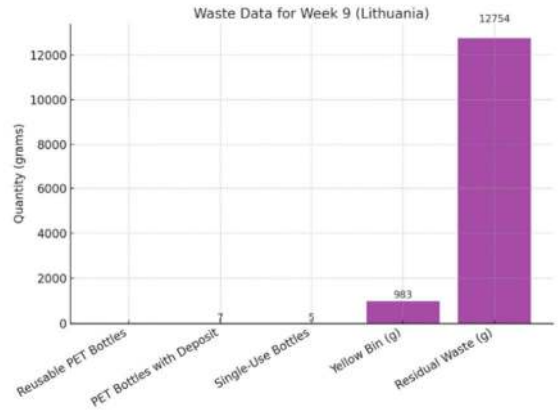


Figure 83: plastic tool waste data week 9, Lithuania (Copyright: City of Kaunas and Utena)

Of all entries in the tool, 98,7 % were usable and provided analysable data. Of this proportion, 98,8 % of households were analysable. 11 households participated for one week. Of the 82 households involved, 2 used the tool for a second week, 3 for a third week, 2 for a fourth week, 2 for a fifth week, 5 for a sixth week, 4 for a seventh, 52 for a eighth week and even one used the tool for nine weeks.

This means that 13,4 % used the tool only once and 86,6 % used it more than once. Most households have more than one person living in them. Among these people, the groups of <18-year-olds and 28-43-year-olds are the most strongly represented. On average, households live on just under 100 square metres, all 82 households have a total of 63 pets. The total weight of waste from the yellow bin per household amounts to 496,572 grams, that of waste from the black bin to 3,261,002 grams.

Week	Total Weight of Waste - Yellow Bin (grams)	Total Weight of Waste - Black Bin (grams)
Week 1	61,946	264,477
Week 2	87,125	534,300
Week 3	65,851	552,967
Week 4	63,162	473,290
Week 5	58,306	380,431
Week 6	56,075	355,418
Week 7	52,895	345,145
Week 8	50,229	342,220
Week 9	983	12,754

3.4 Latvia

3.4.1 Recruitment approach / activities

Daugavpils

Starting in April 2023, PP10 Daugavpils started recruitment process of the households that would potentially participate in the household tool piloting within BALTIPLAST project. Every event organized by BALTIPLAST project (read more here: https://www.daugavpils.lv/en/city/development-of-the-city/international-projects/baltiplast) was taken as the opportunity to tell about future tool piloting campaign and collect the contacts of potential participants.
In August 2024 (when tool was translated into Latvian), PP10 Daugavpils project manager sends out emails to potential participants (emails to the contact list mentioned in point), emails to participants of other target groups (businesses, municipality), emails to personal contacts, WhatsApp groups), information was published on municipality website. 26 volunteers registered for the participation in piloting campaign. Before the start of the campaign all the registered volunteers received emails with instructions about what to do. Personal consultations were offered and provided to those that were interested via phone call or personal meeting.

Valmiera

The implementation of the BALTIPLAST(ic) Diet Campaign involved inviting households through three calls to action.
1) The first call took place during the summer, in July, during the Valmiera City Festival. Given that the Valmiera City Festival introduced, for the first time in Valmiera and Valmiera Municipality, a cup deposit system to reduce the volume of plastic waste generated during the event, it was crucial to organize a wide range of educational activities on plastic, its lifecycle, impacts, issues, and alternatives.

The explanation of the necessity of a plastic audit and the call to conduct a plastic waste audit as part of the BALTIPLAST(ic) Diet Campaign was implemented as part of an educational exhibition aimed at engaging festival attendees during the Valmiera City Festival. More detailed information about the educational exhibition can be found in section 4.5.
The educational festival exhibition was located in a prominent spot in the city center—Vecpuišu Park—where some of the festival activities took place. This included a festival catering zone approximately 100 meters away - and on Zilonu street - a central pedestrian street of the city. The exhibition was on display for one week, including the entire duration of the Valmiera City Festival, attracting a total of approximately 50,000 visitors who had the opportunity to explore the exhibition.
2) The second recruitment call was carried out to colleagues within the municipality. On 27/09/2024 an e-mail to all municipal colleagues having the e-mail with the ending "@valmierasnovads.lv" was sent. This e-mail reached and was read by 578 recipients. In addition to this email, municipal colleagues were personally approached and invited to participate in the plastic audit. This more personal outreach, combined with the email campaign, proved to be a more effective strategy for recruiting participants. It successfully achieved the desired number of participants who expressed interest in conducting the plastic audit.
3) The third recruitment effort was conducted through the Facebook social media platform. On 04/10/2024 a post was published on the municipality's Facebook page, inviting participation in the plastic waste audit while also sharing shocking facts about the lifecycle of plastic in our daily lives.

3.4.2 Description of tested communication methods

09/09/2024 – 06/10/2024 (4 weeks): During this period, households piloted the tool, measuring the amount of plastic and solid waste they generated. On 04/10/2024, the project manager sent an email to all 26 participating households. The email encouraged them to:

- Revisit the project brochure,
- Review the results from the 4-week pilot period, and
- Consider creating a personal plastics reduction plan for their household to implement during the next 4 weeks.

It should be noted that the project does not aim to compare actual waste reduction numbers, as this is technically unfeasible—the data is only accessible to a technical team based in Germany. Instead, the project will recognize participants in other ways, such as honouring the most active household (e.g., the one that asked the most questions) or acknowledging the household that submitted the best photos.

The recruitment process began at the start of the BALTIPLAST project. During events held in Daugavpils on waste management, plastics, and environmental issues (more details here: Daugavpils Projects), attendees were asked to leave their contact information if they were interested in participating in the tool piloting campaign. By the time the campaign began, a list of potential participants had already been compiled. Approximately 60% of those who expressed interest ultimately joined the campaign.

To increase the percentage of participants who completed the full 8-week campaign (providing data for all weeks), a PDF guide was created. This guide included screenshots of the tool, allowing participants to print it out, record their data in their kitchen, and later input it into the tool when using their computer. It appears that about 50% of participants utilized this option, although no concrete data is available to confirm this.

3.4.3. Description of user feedback

No feedback was provided by users in survey 1 and 2.

3.4.4 Documented cases – photos, videos, graphs

Daugavpils

Figure 84: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 85: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 86: examining waste and its ingredients for correct waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 87: examining waste and its ingredients for correct waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 88: examining waste and its ingredients for correct waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 89: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 90: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 91: results of collected waste and reusability concepts, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 92: results of collected waste being weighted and examined for further processing, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 93: results of collected waste being weighted and examined for further processing , Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 94: results of collected waste being weighted and examined for further processing , Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 95: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 96: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Valmiera:

Figure 97: Results of the "Live Statistics Workshop" at Valmiera City Festival'2024. (Copyright: City of Daugavpils and Valmiera)

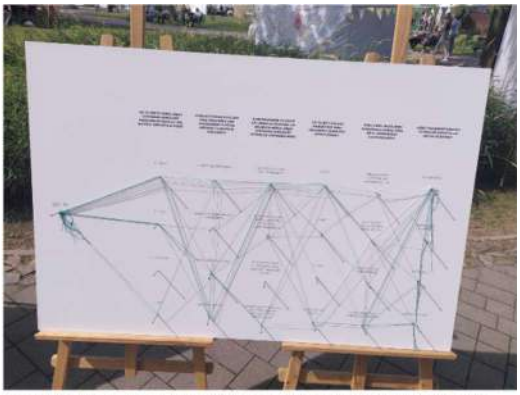


Figure 98: Results of the "Live Statistics Workshop" at Valmiera City Festival'2024 (2) (Copyright: City of Daugavpils and Valmiera)

Figure 99: Educational Exhibition on Plastics at Valmiera City Festival'2024 - Vecpuisi park (Copyright: City of Daugavpils and Valmiera)

Figure 100: Educational Exhibition on Plastics at Valmiera City Festival'2024 - Vecpuisi park (2) (Copyright: City of Daugavpils and Valmiera)

Figure 101: Educational Exhibition on Plastics at Valmiera City Festival'2024 - Zilonu street (Copyright: City of Daugavpils and Valmiera)

Figure 102: results of collected waste being weighted and examined for further processing, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 103: Educational Exhibition on Plastics at Valmiera City Festival'2024 - Vecpuisi park (Copyright: City of Daugavpils and Valmiera)

Figure 104: results of collected waste and deepdive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 105: Educational Exhibition on Plastics at Valmiera City Festival'2024 - Zilonu street (Copyright: City of Daugavpils and Valmiera)

Figure 106: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 107: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

Figure 108: results of collected waste and deep-dive into waste separation, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

3.4.5 Compilation of answers of consumer surveys

The following answers, drawn from survey 1, contain the answers **from both Valmiera and Daugavpils.** 31 people answered the survey in total.

Figure 109: Frequency of use of plastic items, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

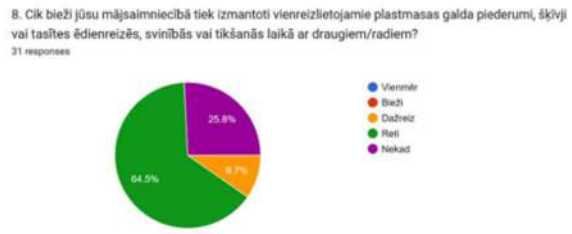


Figure 110: Frequency of use of disposable cutlery, plates or cups, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

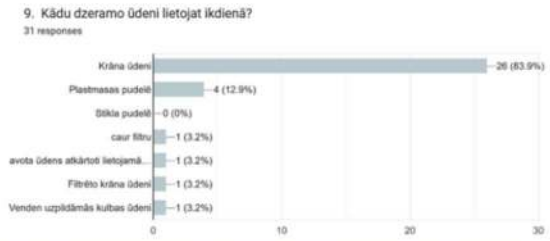


Figure 111: Distribution of the use of the type of water, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

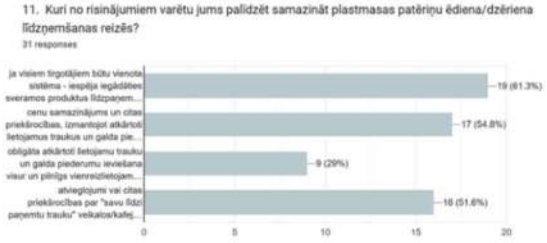


Figure 112: Distribution of options to minimize the consumption of plastic, Daugavpils and Valmiera. (Copyright: City of Daugavpils and Valmiera)

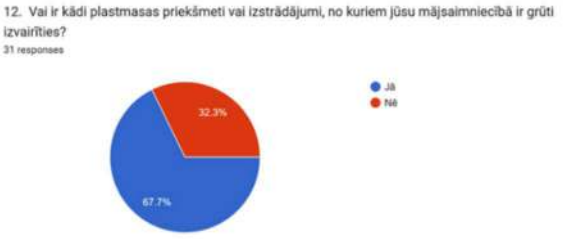


Figure 113: Household distribution of hard-to-avoid plastic items, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

13. Are there certain plastic items or products that are difficult to avoid in your household? If so, please indicate the items: (22 responses)

- Plastic packaging for meat products, menstrual products.
- Food packaging
- Mistake bags
- Plastic bags
- Bottled beverages, packaging of delivered food
- Bags
- Plastic bottles, food packaging
- Reusable plastic takeaway food cans, as glass is not always convenient, as well as shop-bought packaged products.

- Heat-resistant plastic containers (for microwave), food storage containers, takeaway boxes
- Takeaway containers
- Those already packaged in the shop
- Food packaging, toys
- Plastic packaging
- Packaging, bags
- Small plastic shopping bags that are easy to put everything in.
- Packaging
- Fresh pre-packed meat, as it is not possible to buy weighing.
- Plastic bottles for water.
- Food packaging in the shop
- Salad bowls
- Semi-prep boxes

The following answers, drawn from the follow-up survey, contain the answers **from both Valmiera and Daugavpils.** 15 people answered the survey in total.

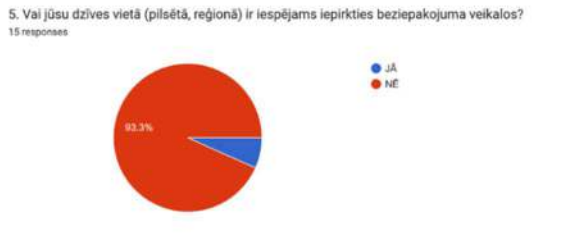


Figure 114: The influence of infrastructure on plastic-free shopping (Copyright: City of Daugavpils and Valmiera)

Figure 115: influence of the toll on awareness of the environmental impact of plastic waste (Copyright: City of Daugavpils and Valmiera)

Figure 116: influence of the plastic reduction measures on the way how to dispose plastic waste (Copyright: City of Daugavpils and Valmiera)

Preliminary survey

A total of 31 people took part in the survey in Latvia. Of the 31 people, 58% to always use plastic items on a normal day and 32.3% sometimes. Over 25.8% never use disposable cutlery, plates or cups. The remaining 74.2% only rarely to sometimes. 83.9% of households do not use store-bought plastic or glass bottles but use tap water. 12.9% buy plastic bottles. At 61.3%, the majority would prefer the “one-fits-all” solution to reduce takeaway plastic consumption. Of the 31 participants, 32.3% do not have any specific plastic items that are difficult to avoid, while 67.7% do. Among these plastic items are: Plastic bags, multiple plastic containers, storage jars, plastic bottles, garbage bags, etc.

Follow up survey

No feedback was provided by users in survey 1 and 2.

3.4.6 Evaluation of the results on the use of the plastic tool (Daugavpils AND Valmiera)

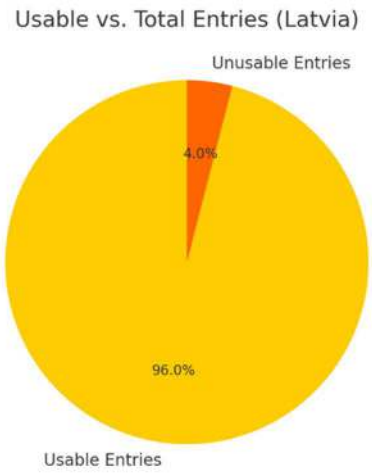


Figure 117: plastic tool usable vs total households, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

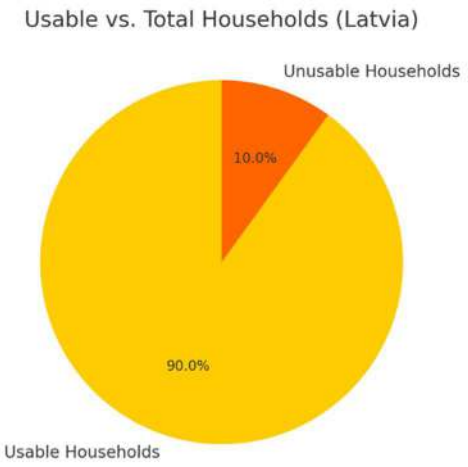


Figure 118: plastic tool usable vs tolas entries, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

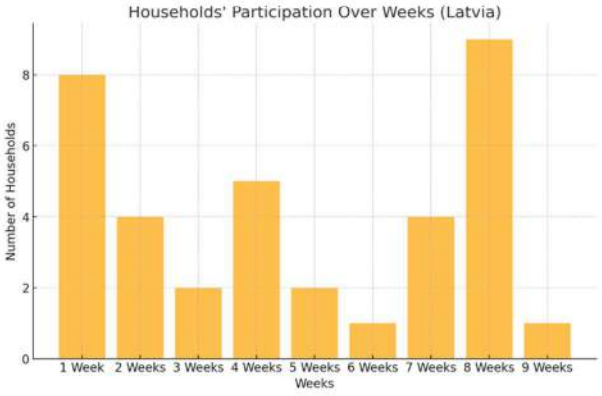


Figure 119: plastic tool participation duration, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

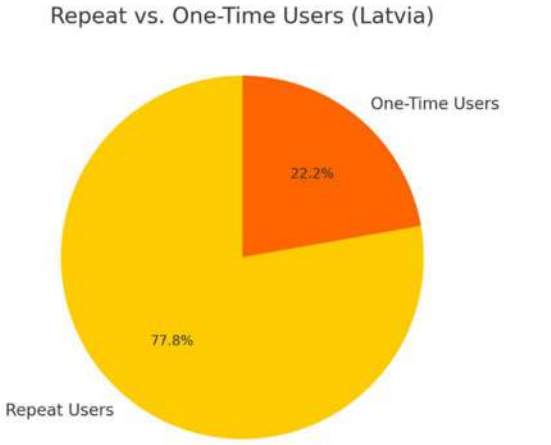


Figure 120: plastic tool repeat vs one-time users, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

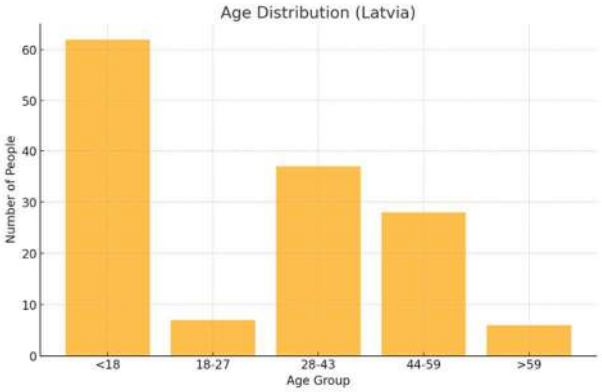


Figure 121: plastic tool age distribution, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

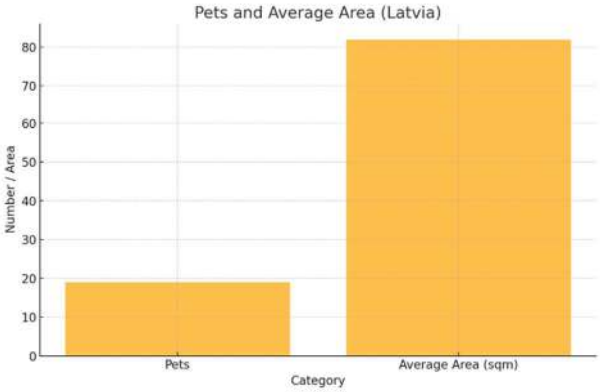


Figure 122: plastic tool pets and average area, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

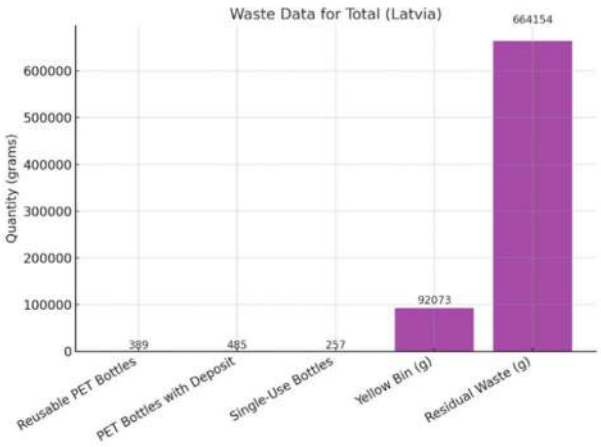


Figure 123: plastic tool total waste data, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

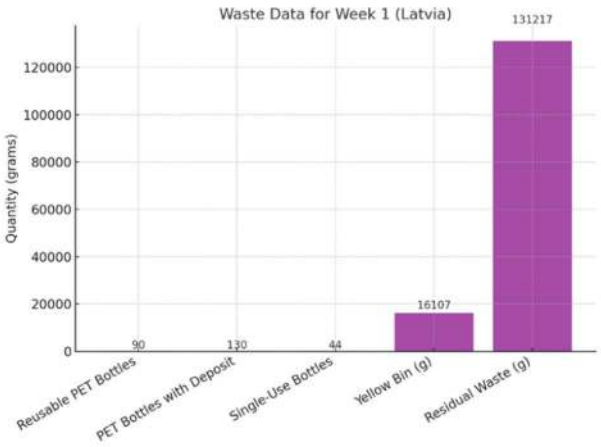


Figure 124: plastic tool waste data week 1, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

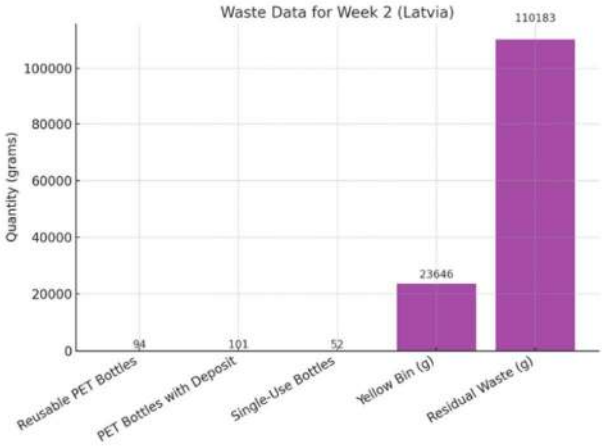


Figure 125: plastic tool waste data week 2, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

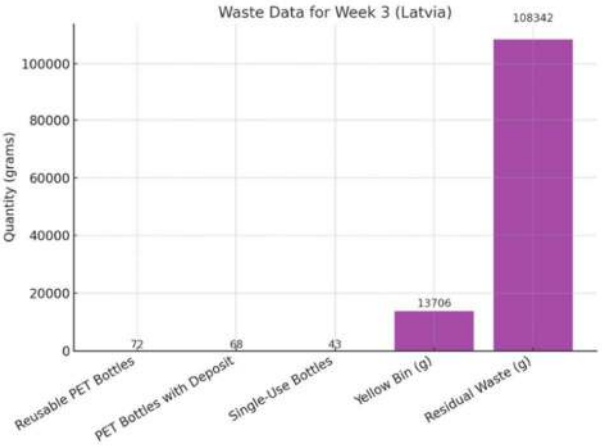


Figure 126: plastic tool waste data week 3, Daugavpils and Valmiera (Copyright: City of Daugavpils and Valmiera)

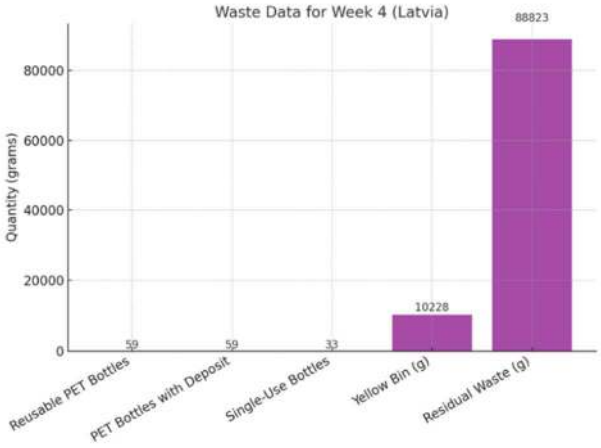


Figure 127: plastic tool waste data week 4, Daugavpils and Valmiera. (Copyright: City of Daugavpils and Valmiera)

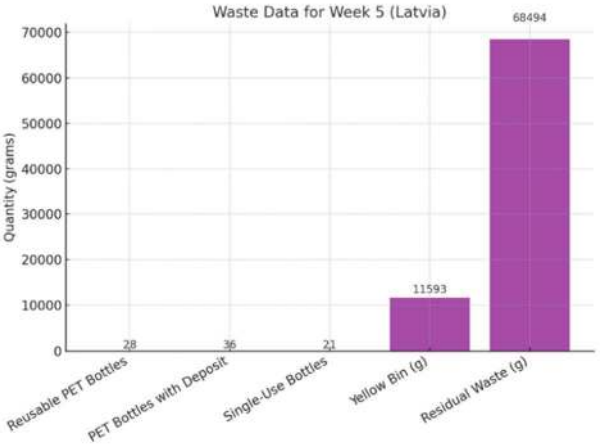


Figure 128: plastic tool waste data week 5, Daugavpils and Valmiera. (Copyright: City of Daugavpils and Valmiera)

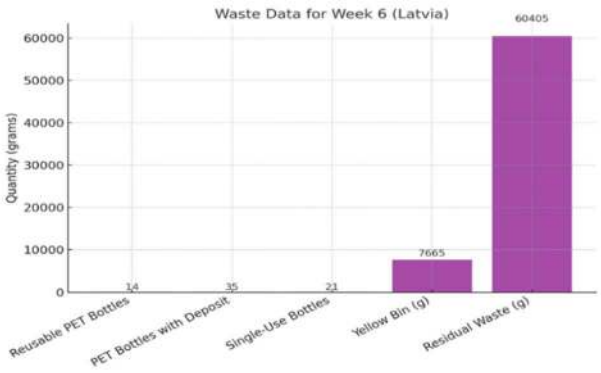


Figure 129: plastic tool waste data week 6, Daugavpils and Valmiera. (Copyright: City of Daugavpils and Valmiera)

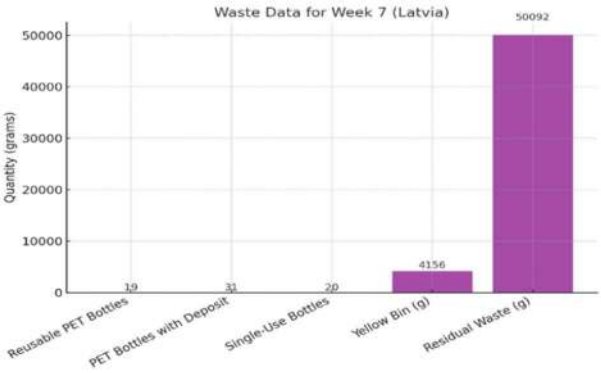


Figure 130: plastic tool waste data week 7, Daugavpils and Valmiera. (Copyright: City of Daugavpils and Valmiera)

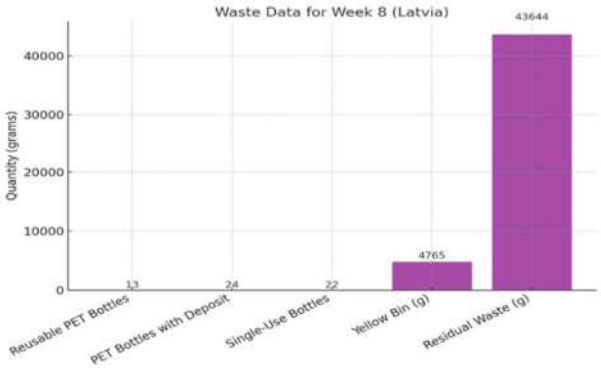


Figure 131: plastic tool waste data week 8, Daugavpils and Valmiera. (Copyright: City of Daugavpils and Valmiera)

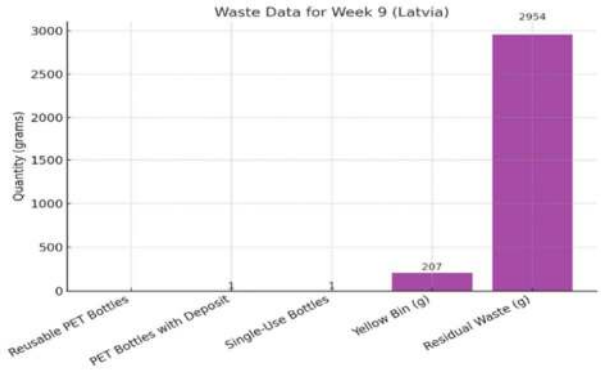


Figure 132: plastic tool waste data week 9, Daugavpils and Valmiera. (Copyright: City of Daugavpils and Valmiera)

Of all entries in the tool, 96 % were usable and provided analysable data. Of this proportion, 90% of households were analysable. 8 households participated for one week. Of the 36 households involved, 4 used the tool for a second week, 2 for a third week, 5 for a fourth week, 2 for a fifth week, 1 for a sixth week, 4 for a seventh, 9 for an eighth week and even one used the tool for nine weeks.

This means that 22,2 % used the tool only once and 77,8 % used it more than once. Most households have more than one person living in them. Among these people, the groups of <18-year-olds and 28-43-year-olds are the most strongly represented. On average, households live on just over 80 square metres, all 36 households have a total of 19 pets. The total weight of waste from the yellow bin per household amounts to 92,073 grams, that of waste from the black bin to 664,154 grams.

Week	Total Weight of Waste - Yellow Bin (grams)	Total Weight of Waste - Black Bin (grams)
Week 1	16,107	131,217
Week 2	23,646	110,183
Week 3	13,706	108,342
Week 4	10,228	88,823
Week 5	11,593	10,228
Week 6	7,665	60,405
Week 7	4,156	50,092

Week 8	4,765	43,644
Week 9	207	2,954

3.5 Sweden (Västerås)

3.5.1 Recruitment approach/activities

For the recruitment campaign we used local media and social media, targeting inhabitants of Västerås. We conducted a survey of inhabitants in Västerås view on plastic. This survey was the basis for a press release launching the Single-Use Plastic Reduction Programme "3 of 4 habitants of Västerås want to avoid plastics", resulting in news articles in print and online, local media and local radio. For social media we produced a series of posts on issues on plastics and collaborated with local organizations and companies to help spread our messages. We also made 2 paid ads directed to inhabitants in Västerås. Total reach in social media from our own posts was 20 000.

The participating households of the first pilot were invited to a face-to-face kick-off meeting in the City of Västerås where information was shared about the programme and a small introduction to the theme of single-use plastics and packaging was given. Participating households were also offered to borrow a scale during the pilot period in order to be able to weigh their plastics during the two inventory periods.

The Plastic Challenge was built upon three steps which made it easy for participants to follow:

1. Check your plastics (two weeks inventory period)
2. Get ready for change (four weeks trying out tips and challenges to reduce plastic consumption)
3. Check again (two weeks inventory period)

Participating households measured their plastic waste twice during the 8-week single-use plastic reduction programme. The households made an inventory of their waste during the first two weeks and the last two weeks of the programme. After each inventory period they were asked to fill out the inventory tool.

The single-use plastic reduction programme or the "Plastic Challenge" is an 8-week programme where participant households measure their plastic waste and try out different tips to reduce their consumption of SUP and plastic packaging. Micro-coaching or micro-learning was applied and the participants received two e-mails per week with tips, challenges and information regarding SUP and plastic packaging. "Refrigerator communication" was also used. Documents were sent out to participants for them to put up on the fridge - two inventory documents and one list of tips. The idea with putting up a document on the fridge, usually a central spot in a household, was to remind participants of the programme and guide them through the inventories and the 4-weeks period of trying out tips for reducing their plastic consumption.

3.5.2 Description of tested communication methods

Face-to-face kick-off meeting with participants in Västerås. Information was shared about the programme and a small introduction to the theme of single-use plastics and packaging was given in a seminar form. Participants were offered plastic-free finger foods.
Micro-coaching or micro-learning was applied and the participants received two e-mails per week with tips, challenges and information regarding SUP and plastic packaging.
"Refrigerator communication" was also used. Documents were sent out to participants for them to put up on the fridge - two inventory documents and one list of tips. The idea with putting up a document on the fridge, usually a central spot in a household, was to remind participants of the programme and guide them through the inventories and the 4-weeks period of trying out tips for reducing their plastic consumption.

3.5.3 Description of user-feedback

When asked what the participants liked best about the programme, they ranked the e-mails first and the list of tips second (a list with tips was sent out to the participants after the first inventory period).
The physical kick-off was also a positive part of the programme. If the programme works well without a physical kick-off that would make the programme easier to scale up and it would also make it less dependent on financial resources.
When participants were asked about how the programme had affected them (survey at the end of the programme) a majority wrote that they had become more conscious about their choices when it comes to SUP and plastic packaging consumption and the impact of plastic garbage. However, many participants reported not seeing significant changes in their consumption habits. The participants in the programme were mainly already very engaged people and a majority reported in the beginning of the programme that they already sort out SUP and plastic packaging to bring it to a recycling station. In the first survey in the beginning of the programme only 4% said they throw plastics in the garbage.

3.5.4 Documented cases - photos, videos, graphs

Figure 133: kick-off meeting and introduction of BaltiPlast, Västerås (Copyright: City of Västerås)

Figure 134: catering/behind the scenes during our workshop with households, Västerås (Copyright: City of Västerås)

Figure 135: workshop during kick-off meeting, Västerås (Copyright: City of Västerås)

Figure 136: workshop during kick-off meeting, Västerås (Copyright: City of Västerås)

Figure 137: evaluation of the weight waste disposal by households, Västerås (Copyright: City of Västerås)

Figure 138: evaluation of the weight waste disposal by households (used scale), Västerås (Copyright: City of Västerås)

3.5.5 Compilation of answers of consumer surveys

Survey 1. Total respondents: 29

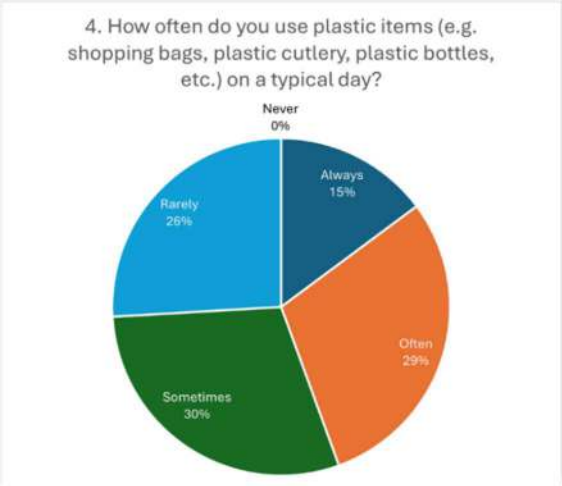


Figure 139: Frequency of use of plastic items, Västerås (Copyright: City of Västerås)

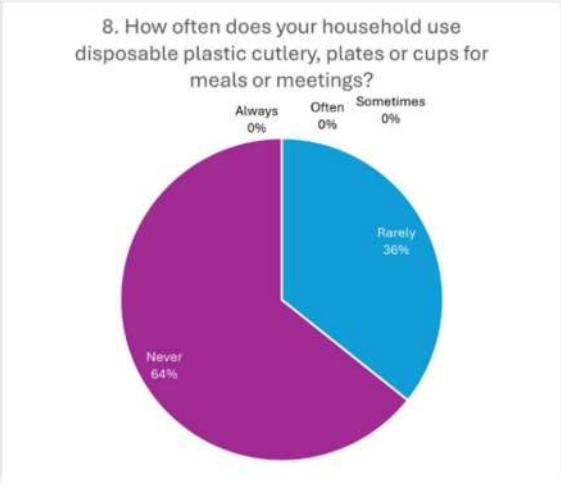


Figure 140: Frequency of use of disposable cutlery, plates or cups, Västerås (Copyright: City of Västerås)

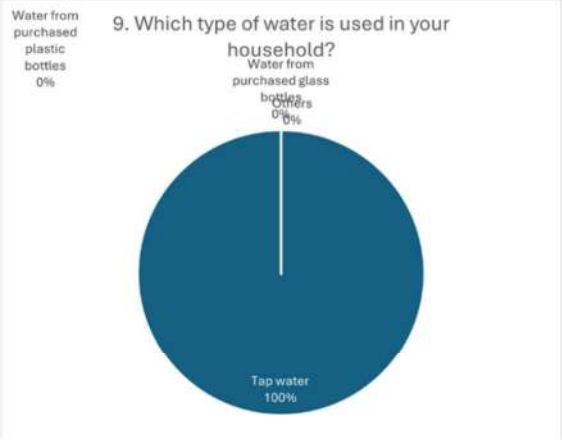


Figure 141: Distribution of the use of the type of water, Västerås (Copyright: City of Västerås)

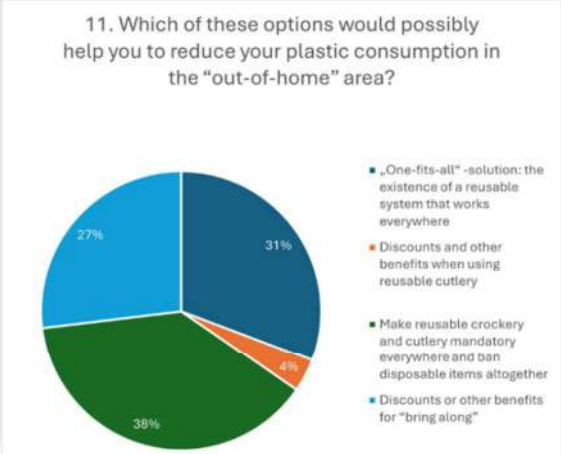


Figure 142: Distribution of options to minimize the consumption of plastic, Västerås (Copyright: City of Västerås)

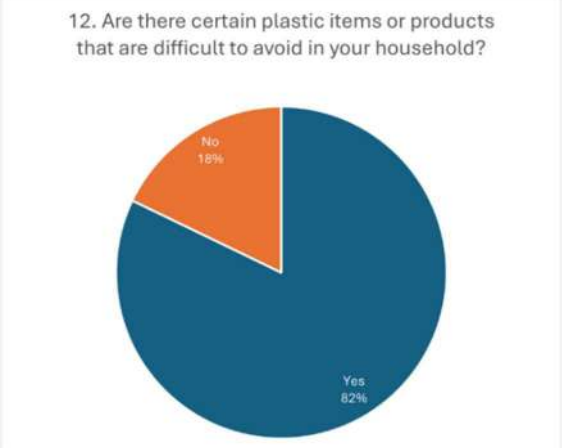


Figure 143: Household distribution of hard-to-avoid plastic items, Västerås (Copyright: City of Västerås)

13. Are there certain plastic items or products that are difficult to avoid in your household? If so, please indicate the items:

- Plastic bags for waste
- Plastic packaging, toothbrush heads, razors, dish brush, zip-lock bags, toilet brush
- toothpaste, shampoo bottles, yoghurt containers
- Plastic film and freezer bags
- Dental floss, plastic packaging around organic food
- Toothbrush, dish brush, toilet brush, plastic gloves in the kitchen when preparing fish
- Plastic film, plastic bags
- Fruit packaging
- Milk packaging. Corks
- Lids on milk packaging
- Lids for milk and yoghurt
- Nappies for grandchildren
- Organic products are often wrapped in plastic
- Cherry tomatoes
- Packaging for food, toilet paper for example
- Packaging for food in the fridge and freezer
- Packaging for food
- waste bags for residual waste
- Packaging for food
- Packaging around food products
- Plastic gloves

Survey 2. Total respondents:13

Figure 144: The influence of infrastructure on plastic-free shopping, Västerås (Copyright: City of Västerås)

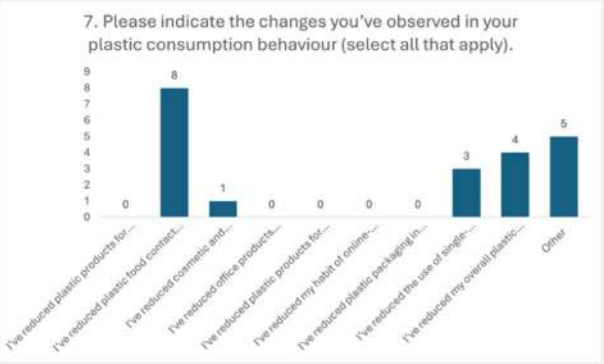


Figure 145: observed changes in plastic consumption behavior, Västerås (Copyright: City of Västerås)

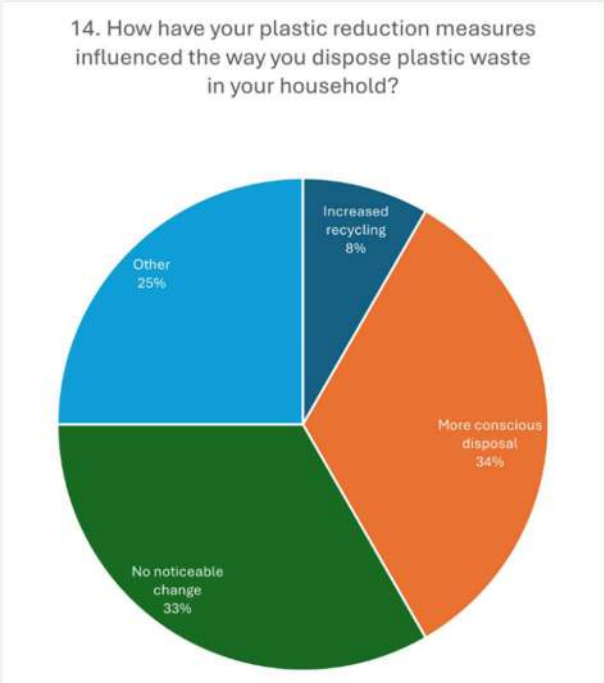


Figure 146: influence of the toll on awareness of the environmental impact of plastic waste, Västerås (Copyright: City of Västerås)

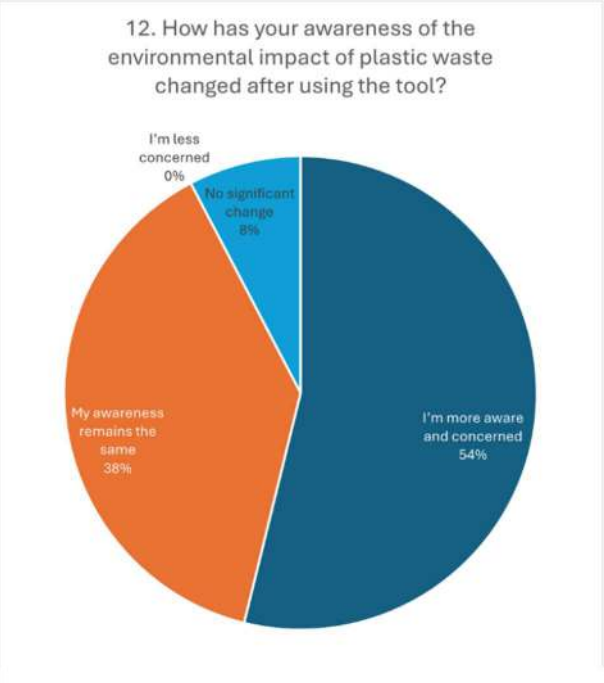


Figure 147: influence oft the plastic reduction measures on the way how to dispose plastic waste, Västerås (Copyright: City of Västerås)

Comment to #14: This question must be related to the already high level of plastic being recycled in the pilot-households. From the first survey 100 % answered Always or Often to the question "Do you actively recycle plastic items in your household?" (22 = Always, 5=Often) Recruitment/selection of households for the pilot: Press release, social media and local collaborations. Carrying out the inventory: Participants measuring their waste during two weeks in the beginning and two weeks in the end of the 8-week programme and filling out the inventory tool after each inventory period. Development of the action plan/measures for plastic reduction and prevention (incl. setting reduction targets): Following the Plastic Challenge 8-week programme, measuring their plastic waste and trying out tips to reduce consumption of SUP and plastic packaging. Getting two e-mails per week with tips and challenges. PR activities related to the pilot: Press release, kick-off.

Preliminary survey

A total of 29 people took part in the survey in Sweden. Of the 29 people, 56% rarely to sometimes use plastic items on a normal day and 44% often to always. Over 64% never use disposable cutlery, plates or cups. The remaining 36% only rarely. 100% of households do not use store-bought plastic or glass bottles but use tap water. 31% would prefer the “one-fits-all” solution to reduce the use of takeaway plastic, 38% think it is best to make reusable crockery and cutlery mandatory everywhere and 27% see discounts for “bring your own” as the best solution. Of the 29 participants, 18% do not have any specific plastic items that are difficult to avoid, while 82% do. Among these plastic items are: Plastic bags for waste, Plastic packaging, toothbrush heads, razors, dish brush, zip-lock bags, toilet brush, toothpaste, shampoo bottles, yoghurt containers, Plastic film and freezer bags, Dental floss, plastic packaging around organic food, Toothbrush, dish brush, toilet brush, plastic gloves in the kitchen when preparing fish etc.

Follow up survey

13 people took part in the follow-up survey. 69% think the infrastructure of their city does not allow plastic-free shopping. The most perceived change in terms of plastic consumption behaviour with 8 votes was that plastic materials that encounter food were reduced. In addition, one person was also able to reduce hygiene and cosmetic products containing plastic. 3 people have also reduced their use of single-use plastic bottles, and 4 people have reduced their overall plastic consumption. Over half of all participants are more aware and concerned about the impact of plastic waste since using the tool. In addition, 8% have recycled more as a result of the plastic avoidance measures, while 33% have seen no change.

3.5.6 Evaluation of the results on the use of the plastic tool

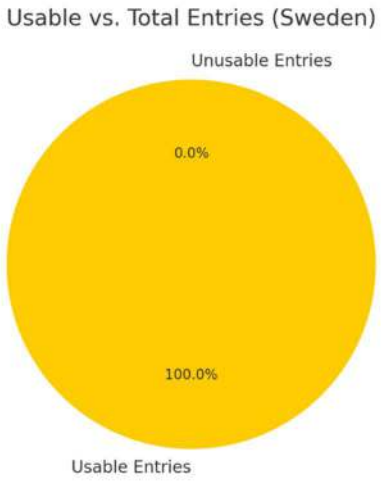


Figure 148: plastic tool usable vs total entries, Västerås (Copyright: City of Västerås)

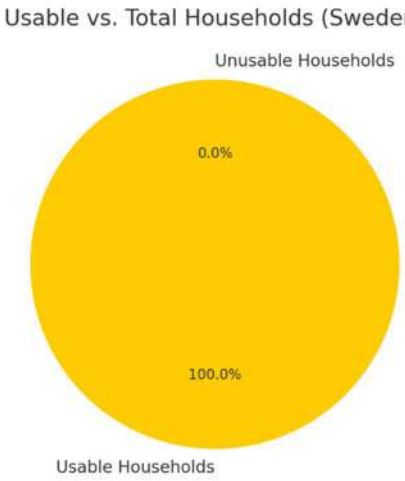


Figure 149: plastic tool usable vs tolas households, Västerås (Copyright: City of Västerås)

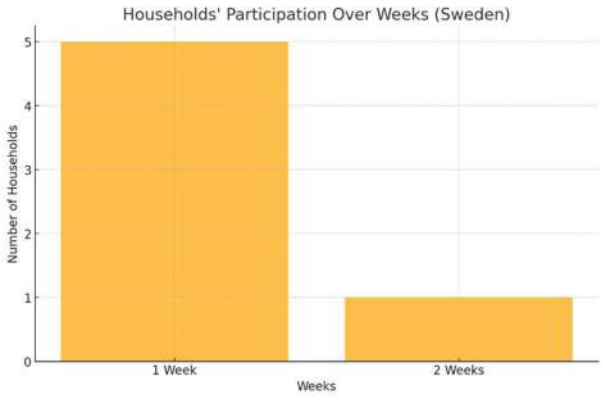


Figure 150: plastic tool participation duration, Västerås (Copyright: City of Västerås)

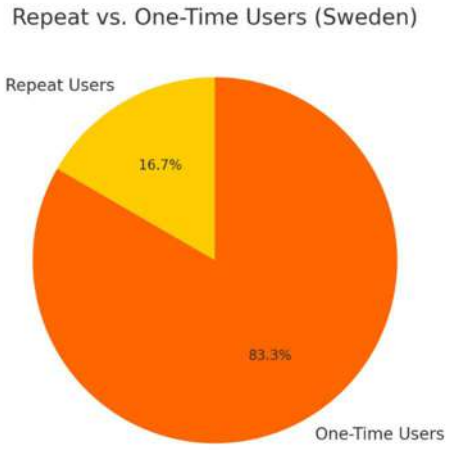


Figure 151: plastic tool repeat vs one-time users, Västerås (Copyright: City of Västerås)

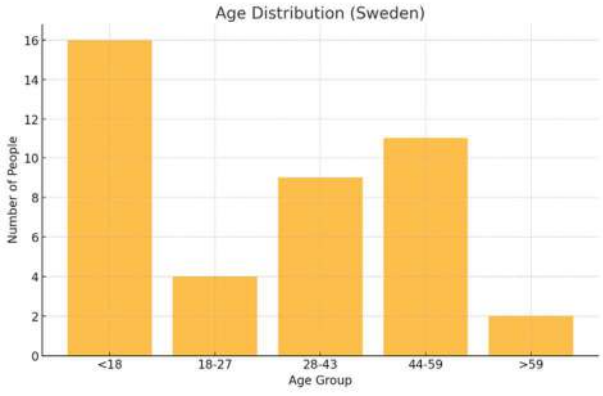


Figure 152: plastic tool age distribution, Västerås (Copyright: City of Västerås)

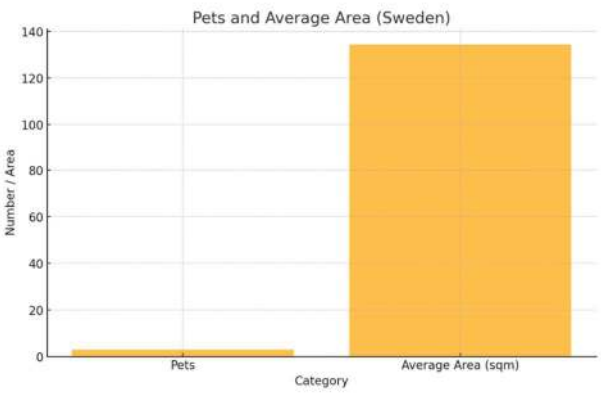


Figure 153: plastic tool pets and average area, Västerås (Copyright: City of Västerås)

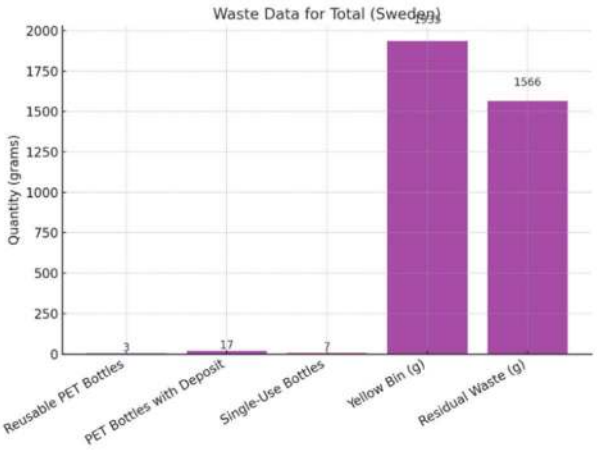


Figure 154: plastic tool total waste data, Västerås (Copyright: City of Västerås)

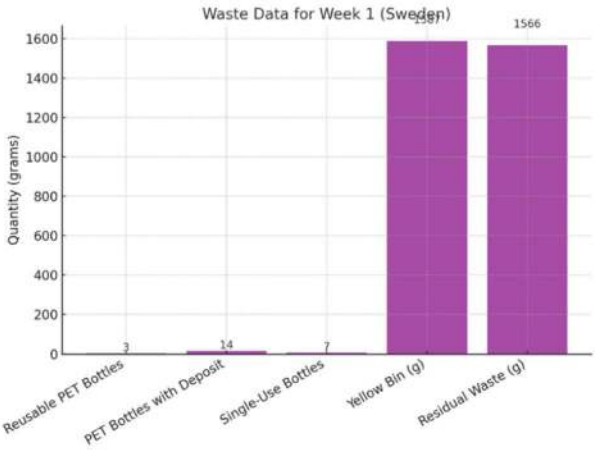


Figure 155: plastic tool waste data week 1, Västerås (Copyright: City of Västerås)

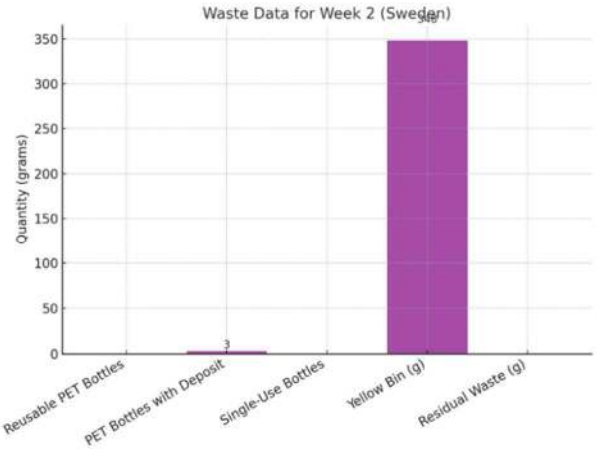


Figure 156: plastic tool waste data week 2, Västerås (Copyright: City of Västerås)

Of all entries in the tool, 100 % were usable and provided analysable data. Of this proportion, 100% of households were analysable. 5 households participated for one week. Of the 6 households involved, one used the tool for a second week, and no one used the tool for a third weeks.

This means that 83,3 % used the tool only once and 16,7 % used it more than once. Most households have more than one person living in them. Among these people, the groups of <18-year-olds and 44-59-year-olds are the most strongly represented. On average, households live on just over 130 square metres, all 6 households have a total of 3 pets. The total weight of waste from the yellow bin per household amounts to 1,935 grams, that of waste from the black bin to 1,566 grams. In week 1, the total weight of waste in the yellow bin of all participants was 1,587 grams, in week 2 it was 348 grams. The weight of waste in the black bin was as follows: In week 1 there were 1,566 grams, in week 2 it was 0 grams.

3.6 Germany

3.6.1 Recruitment approach/activities

For our recruitment activities, we used our existing stakeholder network to draw attention to our offer at events, usually accompanied by information materials (plastic guide, flyer with plastic saving tips).
We launched the recruitment of volunteers to participate in the plastic diet during a week-long week of events, the so-called Climate Week. We designed the colourful and diverse programme together with our project partners HAW, plastic-free city and the Bergedorf district office. The Senator for the Environment Hamburg, Mr. Jens Kerstan, and the head of the Bergedorf district office, Ms. Schmidt-Hoffmann, opened the event. In addition to theatre for children and panel discussions, we tried to inspire people for our mission by addressing people on the street in a way that was tailored to the target group. Participants signed up on a list and consented to be contacted by us for further information. During the Climate Week, we reached about 500 people.
For almost a year, we were in contact with the deputy principal of the Leuschnerstraße elementary school, Ms. Kim Tedsen, to prepare a project week on the topic of sustainability and plastic saving together with her. Shortly before the Hamburg summer holidays, we were allowed to accompany the start of the project week with plastic workshops with about 80 students. We used the target group, which was actually addressed in G.o,A 2.2, to encourage 240 households to use our plastic-saving tool via a letter to parents.

3.6.2 Description of tested communication methods

In November and December 2024, we took up this attempt to reach households via pupils again: At the Leuschnerstraße primary school, we tried out the plastic saving tool with 50 fourth-grade pupils on 18th November, explained it, let them try it out for three weeks and organised a joint closing event on 6th December.
Another recruitment measure was a Clean-up on the WorldCleanUp Day on 21st September. We can highly recommend the direct approach via a Cleanup, in the sense of "briefly tidying up" and later continuing at home with plastic saving, as a best practice.
In addition, our associated partner, the Bergedorf district office, has asked 800 employees to participate by e-mail.
Through the newsletter of Stadtreinigung Hamburg, also an associated partner, we have called for participation in the Climate Week as well as participation in the Plastic Saving Tool. The newsletter is published weekly and currently has about 6,400 subscribers
On December 10, 2024, together with the Bergedorf district office, we called for a final event of the plastic diet and a joint exchange on plastic saving and tips. Ms. Michaela Graf-Krumnow, head of the climate protection department of the Bergedorf district office,

personally thanked the participants for their commitment. We talked about Christmas and the possibilities of reducing plastic consumption.
Moreover, we communicated with people via social media pushes.

3.6.3 Description of user-feedback

- Many people do not own scales, and even if they do, the volume of plastic waste is typically too large for kitchen scales while being too light for standard household scales.
- If participants lose their ID, they must create a new one. Unfortunately, they cannot contact us for support, and we currently do not have a solution for this issue. This challenge has also been observed in other countries.
- Due to data privacy policies, we cannot directly reach out to participants as the tool operates anonymously.
- The anonymity of the tool makes it difficult to establish direct contact with participants, which limits engagement and follow-up.
- Raising awareness through direct, personal contact may be more effective than relying solely on an anonymous tool, especially as the reasons for disengagement remain unclear.
- Weighing waste can feel embarrassing for some participants, and even though it takes no more than 10 minutes, the effort involved—combined with the complexity of the tool—can become a significant obstacle.
- In the context of everyday life, where people are already dealing with numerous challenges, they may lack the time or motivation to use a tool that is not straightforward, visually appealing, and easy to handle.
- Facing too many challenges in a short period can leave people feeling overwhelmed and paralyzed, making it harder to take the first step toward action.

3.6.4 Documented cases – photos, videos, graphs

Figure 157: clean-up action with our BEF Germany Team in Bergedorf, Hamburg (Copyright: City of Hamburg)

Figure 158: playing the escape game by PP18 (Copyright: City of Hamburg)

Figure 159: plastic-free DIY workshop of cosmetics like soap, deodorant, shampoo, Hamburg (Copyright: City of Hamburg)

Figure 160: behind the scenes of the plastic-free DIY workshop, Hamburg (Copyright: City of Hamburg)

Figure 161: opening ceremony of the climate action week by senator Kerstan in Bergedorf, Hamburg (Copyright: City of Hamburg)

Figure 162: opening ceremony of the climate action week by Cornelia Schmidt-Hoffmann in Bergedorf, Hamburg (Copyright: City of Hamburg)

Figure 163: international perspective: panel discussion with experts, moderation: Ralf Leister, Hamburg (Copyright: City of Hamburg)

3.6.5 Compilation of answers of consumer surveys

4. Wie oft benutzt du an einem normalen Tag Plastikartikel (z. B. Einkaufstüten, Plastikbesteck, Plastikflaschen usw.)?

9 responses

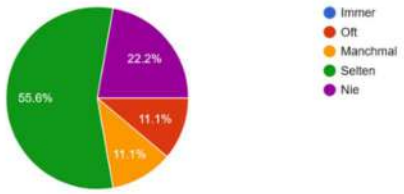


Figure 164: Frequency of use of plastic items, Hamburg (Copyright: City of Hamburg)

8. Wie oft verwendet dein Haushalt Einwegbesteck, -teller oder -becher aus Plastik für Mahlzeiten oder Zusammenkünfte?

9 responses

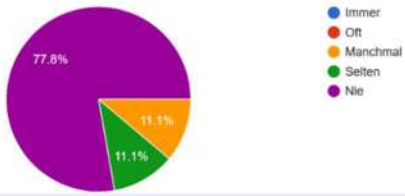


Figure 165: Frequency of use of disposable cutlery, plates or cups, Hamburg (Copyright: City of Hamburg)

9. Welche Art von Wasser verwendest du in deinem Haushalt?

9 responses

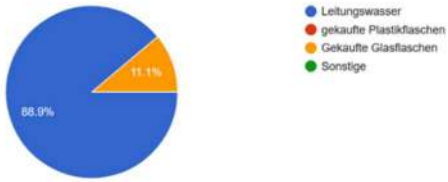


Figure 166: Distribution of the use of the type of water, Hamburg (Copyright: City of Hamburg)

11. Welche dieser Optionen würde dir helfen, deinen Verbrauch an Plastik zum Mitnehmen zu reduzieren?

Copy chart

9 responses

Figure 167: Distribution of options to minimize the consumption of plastic, Hamburg (Copyright: City of Hamburg)

12. Gibt es bestimmte Plastikartikel oder -produkte, die in deinem Haushalt schwer zu vermeiden sind?

9 responses

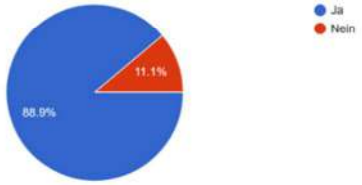


Figure 168: Household distribution of hard-to-avoid plastic items, Hamburg (Copyright: City of Hamburg)

13. Falls ja, welche?

8 responses

Mehrfachbehälter aus Plastik und Flaschen, da sie zum Transport leichter sind.
Wasserdichte Wannen und Boxen zur Aufbewahrung und zum Transport
Plastiktüten
Packungen von Schokolade, Keksen, etc.
Seife, Waschmittel, Hygieneartikel, Hundefutter, Drogerieartikel
Joghurteimer
Aufbewahrungsdosen
Dichtungen vom Geschirrspüler, gekaufte reinigungsmittelbehälter

Figure 169: Examples of plastic items that are difficult to avoid, Hamburg (Copyright: City of Hamburg)

Preliminary survey

Nine people took part in the survey in Germany. Of the nine people, 71.5% rarely to never use plastic items on a normal day and 22.2% sometimes to often. Over 70% never use disposable cutlery, plates or cups. The remaining 22.2% only rarely to sometimes. 88.9% of households do not use store-bought plastic or glass bottles but use tap water. 11.1% buy glass bottles. 1/3 would prefer the “one-fits-all” solution to reduce takeaway plastic consumption, another third would find it smartest to mandate reusable crockery and cutlery everywhere and the final third see discounts for “bring your own” as the best solution. Of the 9 participants, 11.1% do not have any specific plastic items that are difficult to avoid, while 88.9% do. Among these plastic items are Plastic bags Multiple plastic containers, storage tins, dishwasher gaskets etc.

Follow up survey

No feedback was provided by users in survey 1 and 2.

3.6.6 Evaluation of the results on the use of the plastic tool

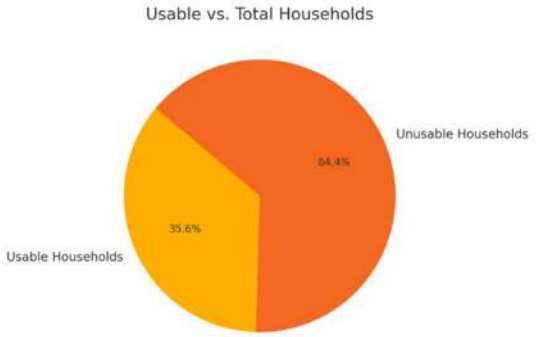


Figure 170: plastic tool usable vs total household, Hamburg (Copyright: City of Hamburg)

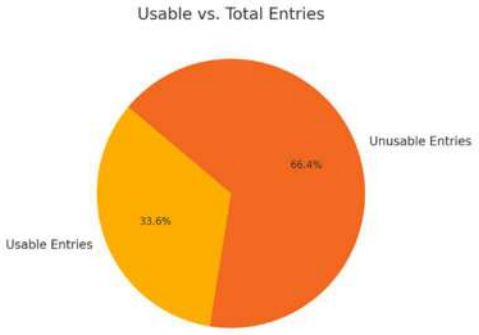


Figure 171: plastic tool usable vs tolas entries, Hamburg (Copyright: City of Hamburg)

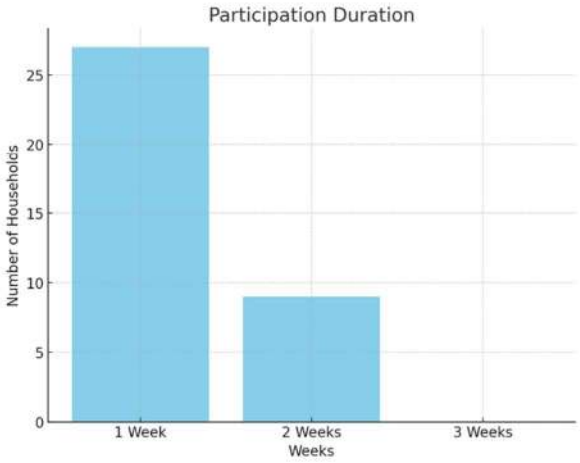


Figure 172: plastic tool participation duration, Hamburg (Copyright: City of Hamburg)

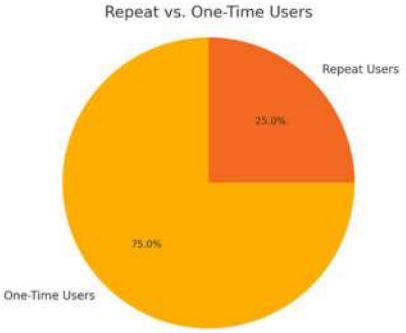


Figure 173: plastic tool repeat vs one-time users, Hamburg (Copyright: City of Hamburg)

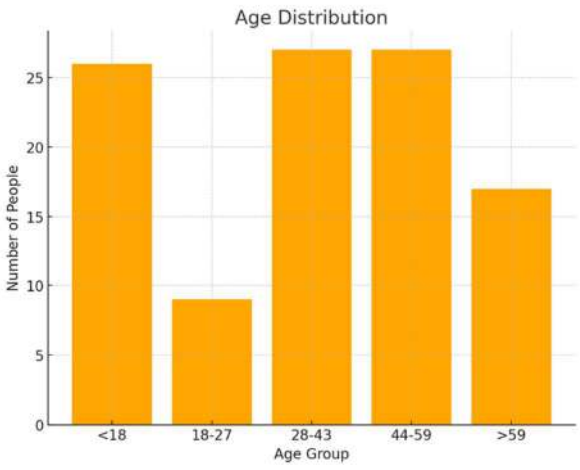


Figure 174: plastic tool age distribution, Hamburg (Copyright: City of Hamburg)

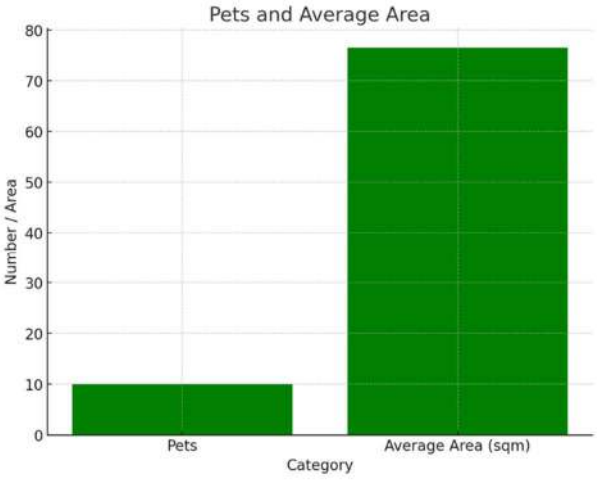


Figure 175: plastic tool pets and average area, Hamburg. (Copyright: City of Hamburg)

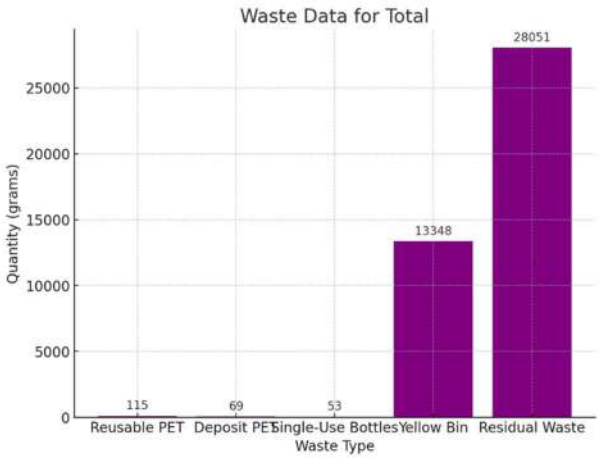


Figure 176: plastic tool total waste data, Hamburg (Copyright: City of Hamburg)

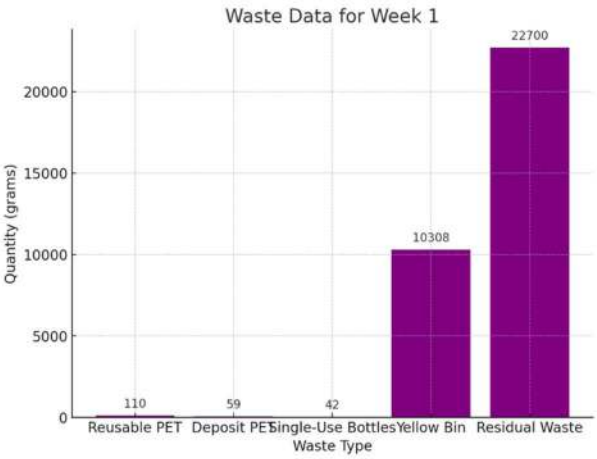


Figure 177: plastic tool waste data week 1, Hamburg (Copyright: City of Hamburg)

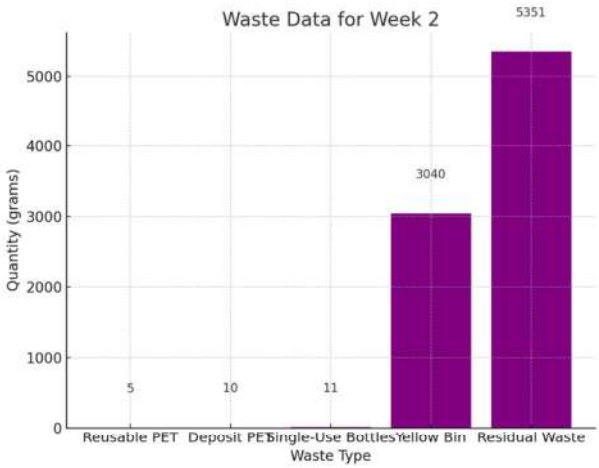


Figure 178: plastic tool waste data week 2, Hamburg (Copyright: City of Hamburg)

Of all entries in the tool, 33.6 % were usable and provided analysable data. Of this proportion, 35.6 % of households were analysable. Less than 30 households participated for one week. Of the 36 households involved, less than 10 used the tool for a second week and 0 for a third week.
This means that 75 % used the tool only once and 25 % used it more than once. Most households have more than one person living in them. Among these people, the groups of 28-43-year-olds and 44-59-year-olds are the most strongly represented. On average, households live on just under 80 square metres. All 36 households have a total of 19 pets.
The total weight of waste from the yellow bin per household amounts to 13,348 grams, that of waste from the black bin to 28,051 grams.
In week 1, the total weight of waste in the yellow bin of all participants was 10,308 grams, in week 2 it was 3,040 grams. The weight of waste in the black bin was as follows: In week 1 there were 22,700 grams, in week 2 there were 5,351 grams.

4. Best Practices for Each Municipality for Transfer

In this chapter, best methods and “dos and don’ts” from each partner are presented with the objective to figure out learnings from the countries’ different approaches for the future.

4.1 Finland

- Success with influencers:
  - Influencers with environmentally conscious audiences helped Helsinki reach tens of thousands, though most were already eco-aware.
  - Reaching beyond the "green bubble" remains a challenge.
- Participation challenges:
  - Only 50 people initially joined, feeling that many individual efforts have little impact due to limited alternatives like food packaging.
  - Systemic support from markets or the city is needed.
- Online vs. offline events:
  - Online meetings are convenient for sharing information.
  - Offline events are better for engagement if paired with incentives or networking.
- Participant incentives:
  - First campaign lacked awards due to anonymity.
  - Current campaign offers "Museum Cards" via lottery to increase interest without pressure.

Best practice: As a municipality: Partner with influencers or NGOs with large social media followings to maximize reach.

4.2 Estonia

- Collaboration with households:
  - Addressing participants' inquiries and concerns is essential.
  - Regular reminders and waste management tips help maintain engagement.
- Timing:
  - Campaign timing is critical; summer proved unsuitable for participation.
- Participation and meetings:
  - Participation was conducted via email and social media.
  - Only online meetings were held, but face-to-face events are preferable as they:
    - Enable open discussions and sharing of experiences.
    - Address questions more effectively.
  - Online events may hinder engagement as some participants are too shy to ask questions.
- Challenges:
  - No special recognition was planned for households.
  - Lack of participant contact information limited follow-up communication.

Best Practice: Used the Pirita packaging pilot project and businesses' plastic inventory project to directly engage participants and promote household plastic inventory pilot opportunities.

4.3 Lithuania

71 households were recruited (51 in **Kaunas**, 20 in **Utena**). Events were organized to introduce the "Plastic Diet," with NGOs assisting in recruitment.

Kaunas

- Key activities:
  - Involved school communities in household plastic inventory projects.
  - Provided scales for students for weighing plastic and mixed waste, improving engagement.
  - Conducted hands-on workshops to sort and calculate plastic waste, enhancing students' understanding.
  - Used electronic data entry forms (developed by NGOs) to monitor engagement and identify participants needing additional support.

    - Teachers' involvement helped reinforce the importance of proper waste sorting among students.
- Challenges:
    - Initial use of paper data collection forms made it hard to track and support struggling participants in real time.
- Recommendations:
    - Do: Clearly communicate sorting rules and provide feedback to participants.
    - Don’t: Avoid complex or overly technical instructions to prevent discouragement.
- Online vs. Offline Events:
    - Online events were effective for broader accessibility and focused information sharing.
    - Offline events foster deeper discussions, better understanding, and openness among participants.

Best Practices: Collaborate with NGOs as experts in plastic inventory for households. Partner with schools, as they promote better waste sorting habits, reduce waste, and encourage students to share knowledge with families and peers.

Utena

- Key activities:
    - Focused on close collaboration with households, addressing all questions and concerns.
    - Send weekly reminders, including practical tips and general information to sustain engagement.
    - Conducted communication via email or social media, allowing households to choose their preferred method.
- Timing:
    - Timing is crucial; summer and winter holidays were unsuitable. Autumn, with fewer holidays, is ideal.
- Online vs. offline events:
    - Held one offline event, which fostered personal connections and in-depth discussions.
    - Online events were accessible but less engaging, as participants were often shy to ask questions.

Best practices: Discuss campaigns with familiar individuals to ease participant concerns and encourage questions. Allow flexibility for households to use their preferred tools, e.g., filling in printed sheets before entering data digitally.

4.4 Latvia

Daugavpils and Valmiera

- Challenges:
  - Sending "cold emails" without prior communication was ineffective.
  - Many users lost their identification (ID) due to the lack of a robust system. Addressing this issue is complicated by GDPR regulations.
- Recommendations:
  - Use concise, structured materials for awareness campaigns: avoid extensive brochures or lengthy texts and tailor materials for families not yet engaged in reducing plastic consumption.
  - Focus on step-by-step guides, e.g., a simple A4 page with clear, logical instructions.
- Offline vs. online events:
  - Offline events are more effective for engaging participants: personal, simple explanations of the project, tool, and process resonate better.
  - If in-person events are impossible, phone calls are a better alternative to impersonal methods.

Best Practices:

- Highlight success stories:
  - Example: A woman in Daugavpils piloting the tool, meticulously sorting her plastic waste by PP numbers and sharing her experience.
  - She also provided a detailed inventory of her household's plastic use and could offer professional insights to other participants.
- Involve children in piloting activities to add an educational element and foster awareness in families.

4.5 Sweden

- Regular communication:
  - Sending two emails per week to households ensured no dropouts, and participants reported it as an appropriate frequency in the last survey.
- Programme structure:
  - The programme was designed in three steps, which helped guide households effectively.
- Physical Kick-off:
  - Households that participated in the physical kick-off were more engaged.
  - A pilot without a kick-off will be tested in autumn 2024 to compare results.

- Direct digital engagement:
  - Links to digital tools and surveys were sent directly to households via email.
  - The first survey was completed during the physical kick-off.

Best Practices:

- Spreading the word via social media.
- Contact households via two mails a week.
- Using “refrigerator communication” = documents to put up on the refrigerator that guide the household through the programme

4.6 Germany

Hamburg played an active role in advancing communication efforts, with a focus on raising awareness and promoting key initiatives.

- Ongoing activities:
  - BEF-DE contributed regularly to the BALTIPLAST Awareness Raising Campaign, including participating in monthly meetings, preparing content for social media, and tracking campaign performance.
  - The Household Acquisition Campaign benefited from BEF-DE’s continuous engagement through websites, social media, and direct stakeholder interactions.
  - The website was further optimized to better promote both the project and the household campaign.

- Targeted actions:
  - Promotional Materials: BEF-DE developed a project postcard to enhance visibility and promote the initiative.
  - Clean-up Events: BEF-DE supported and participated in several clean-up events, including a joint event with Keep Sweden Tidy Foundation and #SailingForSeas, and World Cleanup Day activities. These efforts were widely promoted via articles and social media.
  - Green World Tour: BEF-DE publicized the project’s involvement in the Green World Tour through social media.
  - Final Event in Bergedorf: Promotion of the final event included website articles, social media posts, and collaboration on press release efforts.

Best Practice: We can highly recommend the direct approach via a Clean-up, in the sense of ‘briefly tidying up’ and later continuing with plastic saving at home, as a best practice in Clean-up, in the sense of ‘briefly tidying up’ and later continuing with plastic saving at home, we can highly recommend it as a best practice.

5. Pilot learnings and Limitations

In this chapter, we describe the biggest obstacles of using the tool, the best methods of reaching out to people and the number of households we could recruit as pilot households to test the tool.

5.1 Finland

Recruitment and participation:

- Spring campaign: No dedicated platform; 26 households used the tool.
- Autumn campaign: Recruitment via a Teams group; 18 households joined.
- Total recruited: 44 households, with 40 completing the challenge.

Barriers to use:

- Difficulty reducing plastic use, especially in food packaging.
- Time investment required for regular weighing.
- Limited appeal of the tool's design and focus solely on plastic usage.
- Plastic as an environmental issue is overshadowed by others.

Effective outreach methods:

- Online and anonymous platform lowers barriers to entry.
- Provides measurable insights into plastic consumption, encouraging awareness and potential reduction
- Instagram was effective but had a low conversion rate.
- Messaging framed as "observe your plastic usage" was more engaging than directly asking for demanding reduction efforts (avoid sentences like “can you reduce your plastic usage?” especially outside the “green bubble”)

5.2 Estonia

Recruitment and participation:

- 21 households recruited, including 8 returning users.
- Partnerships: SEI Tallinn, Environmental Management Association, and other local campaigns.

Barriers to use:

- Product examples from the business inventory tool were not household friendly.
- Errors in data entry were irreversible, reducing data accuracy.
- Participants could not review or track progress during the process.
- Anonymity limited follow-ups and support.

Effective outreach methods:

- Personal contacts were the most successful approach.
- Face-to-face events engaged participants effectively.

5.3 Lithuania

Kaunas:

Recruitment and participation:

- In Kaunas, 54 households were initially reached, with 3 dropping out, leaving 51 active participants. The goal is to retain all 51 households through the inventory process, which is planned to conclude by the end of November.
- Collaboration with schools has been effective in broadening engagement, as students share the inventory process with their families, friends, and acquaintances.

Barriers to use:

- Student involvement: Having students involved in the household inventory has made prototype creation and data entry difficult. To address this, data entry is now done during specialized school lessons with teacher and project implementer support.
- Data management: Participants cannot manage or track their filled data in the project tool, making it difficult to follow progress or correct mistakes.
- Tool usability: The tool is considered too complicated and needs improvement.
- Product examples: Some product examples in the tool were taken from a business inventory, but many lack weight information, causing the list to become too long and difficult for households to use.
- Data accuracy: Once data is submitted, it cannot be edited, leading to potential errors, such as incorrect weights.
- ID loss: Some households lost their IDs, causing them to restart the process and lose prior data.

Effective outreach methods:

- Engagement through schools: Involving students in the project has proven effective, with online events and reaching out to Kaunas residents through their children being particularly successful.
- Personal contacts: Direct, personal contact remains a strong method for outreach.
- Event organization: Hosting events and promoting them via social media can help reach a wider audience, especially if the invitations come from local figures familiar with the targeted region.

Utena

Recruitment and participation:

- In Utena municipality, 20 households started the inventory, and 17 completed it. The total expected number of participating households in Lithuania is estimated to be around 60, with additional recruitment in Kaunas planned.
- The project included an offline event, which helped households connect personally and engage in face-to-face discussions. This was the only offline event; other communications were done via email or social media, allowing households to choose their preferred method.
- Households reported a reduction in plastic consumption, and the weekly reminders kept them on track, motivating them and providing additional knowledge about plastic-related topics. The tool helped households track their consumption in an organized way, making the process easy and efficient.

Barriers to use:

- Data entry errors: Some households made mistakes while entering data (e.g., entering 100 g instead of 10 g) and could not correct them after submission.
- Progress tracking: Participants expressed a desire to view their progress at any time during the process, which was not possible with the current tool.
- ID loss: Some households lost their personal IDs, leading to complications, and it was suggested that linking the ID to an email for easier recovery could be beneficial.

Effective outreach methods:

- Offline events: Meeting in person at the offline event allowed for open discussions, where participants could ask questions and share experiences more freely. People were often more open and willing to engage in face-to-face settings than in online events, where they might be too shy to ask questions.
- Communication flexibility: Offering communication via both email and social media allowed participants to choose the method that suited them best, enhancing engagement.
- Weekly reminders and motivation: Regular reminders and informative updates helped participants stay engaged and informed throughout the process.

5.4 Latvia

Valmiera

Recruitment and participation:

- 30 households participated in the household audit process, learning about sustainability challenges related to plastic and beginning the plastic reduction process.

Barriers to use:

- Technology issues: Using an electronic tool on a phone or computer was not intuitive for participants, especially in a home setting where simpler, more manageable routines are preferred.
- Code and link difficulties: Remembering the unique code and the specific links to access and complete the tool was a challenge for participants.
- Data entry challenges: Recording weekly waste measurements on paper and entering them at the end of the challenge was not effective, as the system required real-time data entry and was date specific.
- Local recycling knowledge: The tool required knowledge of specific local recycling options, which varied by region and waste management provider. In Latvia, for example, only packaging waste is recyclable, which complicated accurate data entry.
- Brochure use: While the informational brochure on plastics was helpful, repeatedly referring to it in a home environment was cumbersome, making it difficult to fully engage with the tool.

Effective outreach methods:

- Emotional appeal: The use of emotionally shocking information on social media was effective in attracting attention to the plastic issue.
- Personalized engagement: Participants were more engaged when approached individually, with clear explanations, reminders, and ongoing assistance. Personal interaction and the activity leader’s investment in the project were key enablers.

Key messages and lessons learned:

- Public engagement: Public interest in plastic sustainability can be sparked through emotionally impactful content on social media.
- Personal interaction: One-on-one communication and support were crucial for ensuring participant cooperation and success.
- Adaptation to local context: Adapting the tool to local recycling capabilities and systems, as well as simplifying the user experience, could improve the tool's effectiveness.
- Real-time data entry: The need for real-time data entry, as opposed to bulk entry at the end of the challenge, was a key takeaway to improve data accuracy and user experience.

Daugavpils

Recruitment and participation:

- PP10 recruited around 40 households, using every event as an opportunity for recruitment. Emails were also sent to potential participants, and personal consultations were offered.
- As the last pilot in Daugavpils, the project built on previous piloting efforts at schools, businesses, and municipalities, creating a "win-win" situation. Participants from these larger target groups were invited to join the household pilot, with some expressing interest.

Barriers to use:

- Time: People have many obligations and limited time at home, which they often want to spend relaxing rather than engaging with the tool.
- Information overload: The tool's instructions, such as leaflets and questionnaires, can be overwhelming without guidance. Despite clear emails, many participants still needed further clarification on what to do.
- Waste sorting complexity: Piloting the tool required participants to sort plastics in a way they aren't used to (e.g., separating all types of plastics when only certain types are recycled locally), which was an additional challenge.

Effective outreach methods:

- Good methods: Personal contacts and discussions at events focused on waste management and environmental issues were effective for recruiting household participants. Emails to businesses and municipalities that had already participated were successful, especially when preceded by a personal call.
- Bad methods: “Cold” emails without prior contact and press releases on the municipality website were less effective in reaching potential participants.

5.5 Sweden

Recruitment and participation:

- The first pilot included 35 households, with an estimated 65 more expected by the end of the year, bringing the total to 100 households. The estimated number of 100 was not reached, however 81 households have been recruited
- There has been no interaction with other target groups, such as schools, businesses, or municipalities, within the BALTIPLAST project.

Barriers to use:

- It’s difficult to assess the barriers to use due to a lack of statistics on how households engaged with the tool or when they stopped using it.
- Feedback has been provided to the consortium regarding the tool’s user-friendliness, but without usage data, drawing conclusions about these issues is challenging.

Effective outreach methods:

- The recruitment campaign utilized local media and social media to reach participants.
- A survey of Västerås residents' views on plastic formed the basis for a press release, which led to news coverage in local print, online media, and radio.
- Social media efforts included a series of posts about plastic issues, collaborations with local organizations, and two paid ads aimed at Västerås, resulting in 20,000 views from their own posts.

5.6 Germany

Recruitment and participation:

- People often lack scales or have difficulty using them for large, light plastic waste.
- If users lose their ID, they cannot recover it, and there's no solution in place to assist them, even though this issue occurs in other countries.
- Due to data policies, outreach is challenging because the tool is anonymous, preventing direct communication.
- Some users are hesitant to engage with the tool due to concerns about data privacy.
- Reaching people is difficult without direct contact or identifiable information, making it harder to engage users.
- Many individuals don't see the value in separating waste, thinking it's all burned anyway, which points to a need for more education on waste processing.
- There's a perception that people are already doing enough to reduce plastics, but deeper discussions reveal more areas for improvement.
- Outreach efforts at events are often ineffective because many people are in a hurry and not interested, though families and older individuals tend to be more receptive.
- Everyday life challenges make it hard for people to prioritize complex tasks; tools should be easy to use and visually appealing

Barriers to use:

- Lack of proper scales and the size/weight of plastic waste makes it difficult for people to use the tool.
- Loss of ID without recovery options is a barrier.
- The tool's anonymity prevents follow-up or assistance, and people may fear how their data is used.
- Waste separation can seem irrelevant to those who believe it's all burned in incineration plants.
- There's a lack of awareness about waste separation processes and what happens after waste is sorted.
- The tool's complexity and time commitment (even though only about 10 minutes) can discourage participation.
- People may feel overwhelmed by too many issues to address and therefore avoid acting on any.

Effective outreach methods:

- Direct, personal engagement is highly recommended, such as speaking to people during events like cleanups or on the street during climate week.

- Motivating people to act in the moment increases engagement and participation.

6. Conclusions – connection to project goals

This chapter summarises key factors for success and challenges encountered during the Plastic Reduction Programme along with suggestions for improvement.

Success factors include:

- Variations in waste management systems across countries must be considered.
- Instagram had good reach, but personal contact was more effective for engagement.
- Face-to-face events and reminders helped households stay motivated and reduce plastic use.
- The Plastic tool was helpful for tracking consumption in an organised way.

Challenges include:

- Not all households have scales, reducing the accuracy of tracking.
- Motivation for regular waste weighing decreased over time.
- Drop-outs and lack of data on tool usage and participant behaviour hindered analysis.
- Some product examples lacked necessary data, and tool design was not user-friendly.

Proposals for improvement include:

- Revising the data policy and making surveys part of the tool.
- Enhancing personal contact and simplifying the tool's design.
- Introducing automatic waste tracking features and better data accessibility.
- Adjusting the messaging to be more inviting and less demanding.
- Making it easier for households to join the challenge and receive updates.

The Plastic Tool was effective for measuring reductions but must be adapted for different countries and cultures. For long-term impact, personal engagement and continuous support through smaller challenges and in-person events are essential.