



Designing the PSL Tool - 101

Specifications of the PSLifestyle Application and Dataset –
Version 1

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Abstract

In 2017, the Finnish Innovation Fund Sitra developed a digital tool for citizens to understand the impacts of their lifestyle and consumption habits called the “Lifestyle Test. After taking the test, the citizens were presented with a series of alternative lifestyle options with associated emission reductions. The test has been done over a million times in Finland.

Following the first application, **the Horizon 2020 project PSLifestyle**, aims at expanding the user base and potential impact of the tool by improving it with new features and adapting it to the context of eight European countries: **Estonia, Finland, Germany, Greece, Italy, Portugal, Slovenia, and Turkey.**

This report provides an overview of the process of localizing the first version of the online tool. The contextualization of the tool is essential since the tool needs to reflect different local realities around Europe, for example, climate, social norms, and trends. In addition, by taking feedback from a large number of diverse set of citizens could also increase the acceptability of the tool in the project partners local contexts.

In this document, we describe the process taken to localise the tool, as well as the most important takeaways which were produced by the process itself which would further help in later iterations of citizen outreach and development of the tool.

The Beta version of the PSL tool can be accessed [here](#).

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Abbreviations

Collaborating Centre on Sustainable Consumption and Production – CSCP

Intergovernmental Panel on Climate Change – IPCC

Institute for Global Environmental Strategies – IGES

Organisation for Economic Cooperation and Development – OECD

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Sustainable Lifestyles and the PSLifestyle Project

Introduction

Our behaviours as individual consumers are having a profound effect on the environment. Partly due to our consumption patterns, society is confronted with a confluence of challenges – including environmental degradation, climate change, excessive resource consumption, and challenges associated with social inequity¹. It has been noted that 72% of global greenhouse gas emissions occur at the household level through the way we live, travel, eat, and consume goods and services². To keep within the 1.5-degree limit as prescribed by Intergovernmental Panel on Climate Change (IPCC) and fulfil various other sustainable development goals, a low energy demand scenario is required where bottom-up transition in behaviours create top-down structural changes³. These targets require changes in the way we consume things – of products, services, and infrastructure, from acquisition and use to disposal. It would require changes in social and cultural norms associated with goods and ownership⁴.

Keeping these challenges in mind, the concepts of sustainable lifestyles and behaviour change have emerged as important facilitators to fast track the required societal transition. So far, the attempts to change people's habits by appealing to their rationale with distant climate scenarios have not produced significant behaviour change, what can be seen for example in the rising emissions from the road and air traffic⁵ and increase of meat and dairy consumption in the EU level⁶.

Part of the challenge of realising sustainable lifestyles at scale is that the framing remains largely academic and tends to be led from theory rather than building it up from

¹ Menon, A., & Menon, A. (1997). Enviropreneurial Marketing Strategy: The Emergence of Corporate Environmentalism as Market Strategy. *Journal of Marketing*, 61(1), 51–67. <https://doi.org/10.1177/002224299706100105>

² Hertwich, E. G. & G. P. Peters (2009). Carbon Footprint of Nations: A Global, Trade-Linked Analysis. *Environmental Science and Technology* 43: 16, 6414–20. <https://doi.org/10.1021/es803496a>

³ Grubler, A., Wilson, C., Bento, N., Boza-Kiss, B., Krey, V., McCollum, D. L., Rao, N. D., Riahi, K., Rogelj, J., De Stercke, S., Cullen, J., Frank, S., Fricko, O., Guo, F., Gidden, M., Havlík, P., Huppmann, D., Kiesewetter, G., Rafaj, P., ... Valin, H. (2018). A low energy demand scenario for meeting the 1.5 °C target and sustainable development goals without negative emission technologies. *Nature Energy*, 3(6), 515–527. <https://doi.org/10.1038/s41560-018-0172-6>

⁴ Girod, B., Vuuren, D., & Hertwich, E. (2014). Climate policy through changing consumption choices: Options and obstacles for reducing greenhouse gas emissions. *Global Environmental Change*, 25. <https://doi.org/10.1016/j.gloenvcha.2014.01.004>

⁵ EEA (2019). Report on road traffic demand. Available at: <https://www.eea.europa.eu/data-and-maps/indicators/passenger-and-freight-transport-demand/assessment-1> (Accessed 24.1.2021).

⁶ EC (2018) EU agriculture outlook 2018–2030. Available at: https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/medium-term-outlook-2018-report_en.pdf.

practice, thus making it distant from everyday practices⁷. The policy discourse would show a mostly top-down approach through instruments and programmes that, although well intentioned, are derived from macro-economic assumptions that do not fully recognise limitations to individual or collective behaviour change⁸. Several observers have thus argued that successful, long-lasting, and legitimate change in behaviour would require not only policies and programmes but essentially a participatory bottom-up construction that allows buy-in from citizens⁹.

Introducing PSLifestyle

The European Union Horizon funded '**Co-creating positive and sustainable lifestyle tool with and for European citizens**' – PSLifestyle project focuses precisely on this. It does this by **engaging citizens through a digital tool** to collect, monitor and analyse their environment and consumption data as well as co-research, co-develop, and uptake everyday life solutions for climate change.

The project will build a data-driven movement with and for the citizens to enable more sustainable lifestyles across Europe. The ambition of the project is to **engage a total of four million European citizens** – with a particular focus on eight European countries: Estonia, Finland, Greece, Germany, Italy, Portugal, Slovenia, and Turkey– in data collection and data sharing through the **PSL digital tool**.

The tool will be based on the **carbon footprint calculator 'Lifestyle Test'**, set up by the project partner Finnish Innovation Fund Sitra in 2017. In the PSLifestyle project, an improved version of the digital tool will be further developed and contextualised to align with the citizens' local realities in the pilot regions. This will be done by co-creating a localised version of the tool through **citizen science labs** to understand the local **capabilities, opportunities, and motivations** of the citizens in engaging in more sustainable lifestyles. The PSLifestyle project will also work with other societal catalysts, including policymakers, businesses, civil society organizations (CSOs), and academia to design solutions based on citizen data. After the co-development process in citizen science labs, the project focuses on the wider outreach of the service and on expansion into other European countries.

The overall objectives of the project include, to: –

7 Røpke, I. (2009). Theories of practice – New inspiration for ecological economic studies on consumption. *Ecological Economics*, 68(10), 2490–2497. <https://doi.org/10.1016/j.ecolecon.2009.05.015>

8 Vergragt, P. et al. (2014). Sustainable production, consumption, and livelihoods: global and regional research perspectives. *Journal of Cleaner Production*, 63, 1–12. <https://doi.org/10.1016/j.jclepro.2013.09.028>

9 Jackson, T. (2005). Motivating sustainable consumption: A review of evidence on consumer behaviour and behavioural change. Report to Sustainable Development Research Network, 170.

1. Build an innovative behaviour change and citizen science online tool that enables people to participate in generating personal sustainability data, while learning about personalised sustainable lifestyle choices.
2. Orchestrate eight local Citizen Science Labs that contribute to and promote the PSLifestyle tool development as well as generate a list of customized smart actions (Smart Everyday Actions).
3. Create and share the DataSet with relevant data blocks on major lifestyle areas, to enable further research and policy design beyond the project.
4. Build awareness to inspire and equip European citizens to adopt lasting behavioural patterns for sustainable and healthy lifestyles.

Basis for the PSL Tool

The calculator function of the PSL tool is based on the Lifestyle test. The Lifestyle test is a consumption-footprint calculator which allows people to understand the impact of their lifestyle by answering 26 simple questions. The test has been done over a million times in Finland. While most of the questions are general, some of them are based specifically on the living conditions of a person living in Finland. The calculations behind the different questions are specifically based on the context of Finland, i.e., the Finnish energy system, public transport system, travel choices, consumption choices, etc. The 26 questions are split into four main lifestyle areas –

- Living
- Transport and tourism
- Food
- Things and Purchases

These focus areas and the scientific background was developed as part of the "[1.5-degree lifestyles – Target and options for reducing Lifestyle carbon footprint](#)"¹⁰ report co-created by the Institute for Global Environmental Strategies (IGES), KR Foundation, D-Mat, Aalto University, and Finnish Innovation Fund Sitra.

Furthermore, after taking the test the users are presented with a list of personalised alternate lifestyle options or "smart actions" based on their responses with associated emission reductions. Commitment to a set of actions provides people with their own personalized pathway for emission reductions which has been facilitated through the [Sitoumous2050](#) web platform supported by the Finnish Prime Minister's Office. By

¹⁰ Institute for Global Environmental Strategies, Aalto University, and D-mat Ltd. 2019. 1.5-Degree Lifestyles: Targets and Options for Reducing Lifestyle Carbon Footprints. Technical Report. Institute for Global Environmental Strategies, Hayama, Japan.

December of 2020, a total of 6000 tons of CO2e reductions have been committed by Finnish citizens engaging on the platform¹¹.

Customising the PSL Tool

To correspond with the aims of the PSLifestyle project, the test is required to be localised and launched in 7 other European countries with their own list of actions. This process requires contextualisation of not just the questions and their corresponding answer options, but also the list of actions to reflect local realities. This includes reflection of local systems of provision such as energy systems, transport systems, etc. and local social and cultural practices. This contextualisation is important so as to not follow a “one size fits all” approach but rather acknowledge the differences and the diversities between lifestyles in not just different countries but also within the countries themselves.

Overall, the process of localization of the questions for the test was a two-step process (Figure 1). The first step involved the localization of the sets of questions and associated answer options. In this step questions and answer options not relevant to different partner countries were excluded and other questions of high relevance along with their respective answer options were added in their place. With this, the questions and answer options were further updated based on the framing and wording commonly used in the respective countries. Finally, the questions and answer options were translated in local languages of the respective countries. Some examples for this localization process are mentioned in Table 1. This step also aimed at identifying local challenges to overcome and ensuring the inclusivity of the tool. This was kept in mind to ensure that the tool remains accessible to groups that are at the risk of being marginalized.

¹¹ <https://sitoumus2050.fi/en/web/sitoumus2050/home#/>

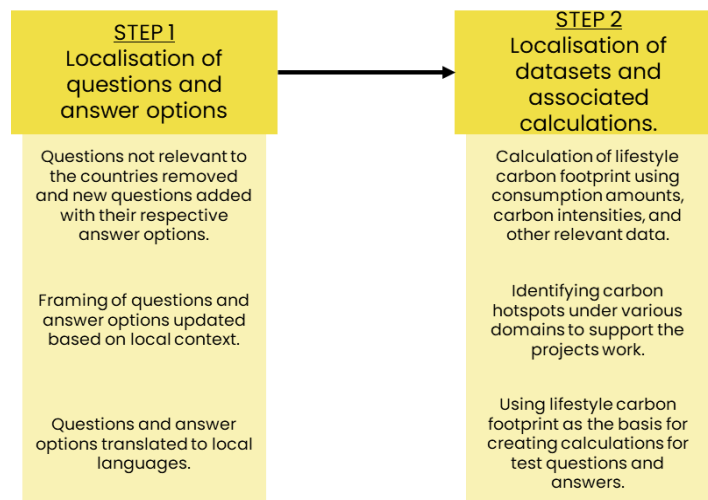


Figure 1 Localisation process for the calculator part of the PSL tool

The second step of the localisation process involved the localisation of the dataset and associated calculations. This process began with calculation of the lifestyle carbon footprints for each of the countries and later using the information to build the calculations for the PSL test based on the localised questions and their associated options. The data localisation process regarded three groups of data primarily –

1. Consumption amounts – including quantities used or consumed, for example, meat or electricity, in one country.
2. Carbon intensities – the greenhouse gas emissions, in terms of CO₂e, associated with different consumption categories.
3. Other data – such as energy mix of the country considered, the share of transport demand over different modes of transport available in the country, etc.

The localisation of the data has been done using data from publicly available international databases such as Eurostat, Organisation for Economic Cooperation and Development (OECD) database, or the data from the International Energy Agency’s data explorer. Information which could not be obtained from these larger international databases was obtained by collaborating with the local partner organisations who could obtain the information from National statistics. Some examples for this data are mentioned in the below table (Table 1) and a more detailed information for the localization process is described in detail in the associated public deliverable “D1.2 Guidelines for application customization – Localising the PSLifestyle tool for calculating individual carbon footprints”.

Lifestyle category	Data required	Unit of measurement	Data Source
Housing	Per capita Residential Energy Consumption	(KwH/capita/year)	International Energy Agency
	Average Living Space	M ² /Capita	Eurostat
Transportation	Total Passenger Road transportation	Million Passenger Kilometer	OECD
	Aircraft travel (International)	Km/person/year	Local Statistics
Food	Beef consumption as a food source	Kg/person/year	Local Statistics
	Consumption of Sugar and confectionary	Kg/person/year	FAOstat
Other Consumption	Expenditure on clothing	Amount in €	Eurostat
	Expenditure on recreational activities and consumption services	Amount in €	Eurostat

Table 1 Types of data for calculating the personal carbon footprint and calculations for the PSLifestyle Test

The calculation of lifestyle or consumption-carbon footprint was also used for identifying the hotspots for carbon footprints in different countries which further highlights the difference between the changes required in them. Figure 2 highlights the differences in consumption-footprint calculated for the PSLifestyle partner countries whereas Figure 3 highlights the breakdown of the food-footprint for Estonia as an illustrative example.

Additionally, the calculation criteria for the PSL tool is available on request and would be further added to the tool website.

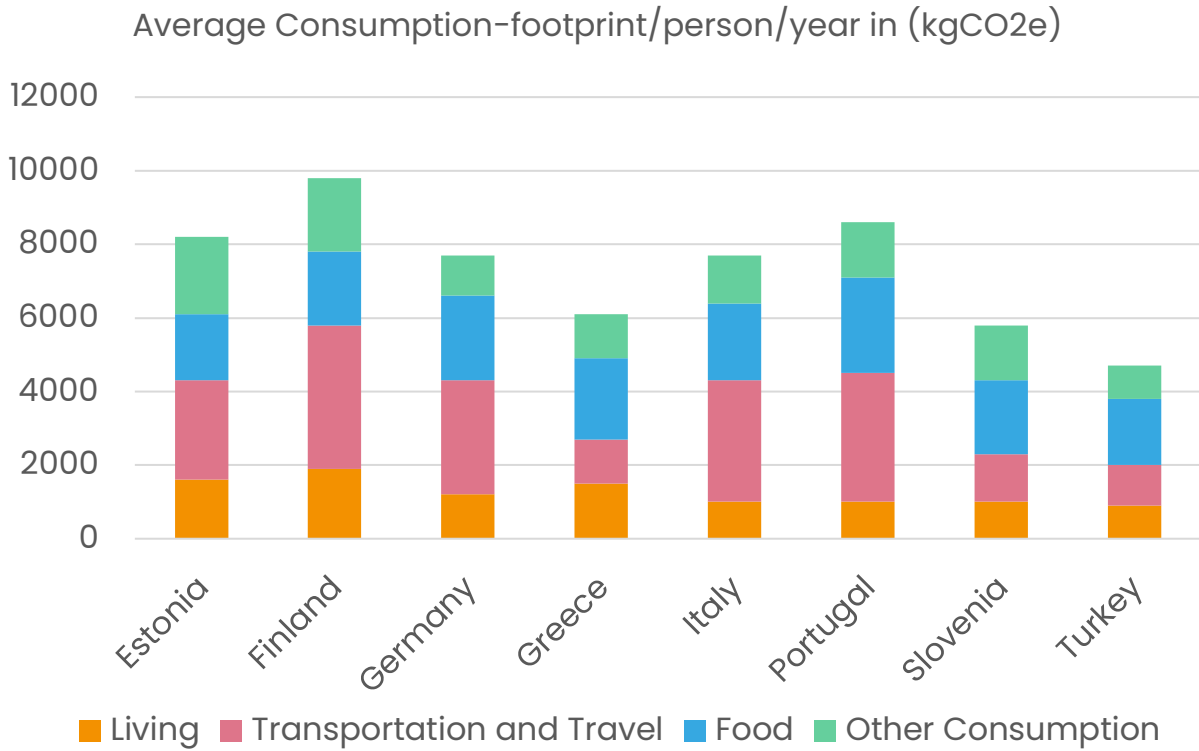


Figure 2 Average consumption footprint for PSLifestyle partner countries in KgCO₂e

- Red Meat
- Dairy products
- Beverages
- Cheeses
- Chicken
- Eggs
- Fish
- Fruit and vegetables
- Cereal products
- Sugar and desserts

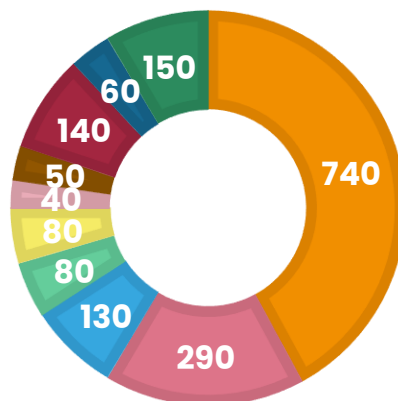


Figure 3 Understanding of food as an emission hotspot with breakdown for Estonia in KgCO₂e per person per year

The PSLifestyle Citizen Science Labs

The PSLifestyle Citizen Science Labs combine **two prominent participatory approaches – living labs and citizen science**. These approaches commonly aim at **ensuring and enabling the involvement of citizens in shaping our social, economic, and political realities through co-creation and data collection**. This helps to increase the transparency, credibility, and legitimacy of solutions that impact the lives of citizens themselves.

Living labs as a methodology is centred between **open-innovation, user-centred, and participatory design**. It emerges from the hypothesis that citizen involvement in the design of products and services would increase their acceptability and use from citizens and would in turn translate into both economically and socially sustainable solutions. The proponents of the methodology stress the fact that rigorous co-design and testing ensure social and economic sustainability.

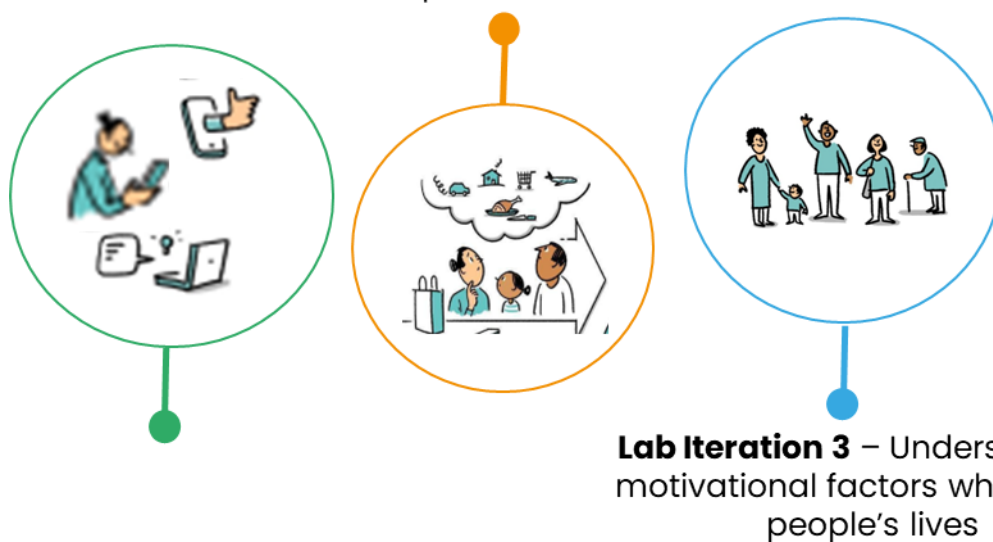
Citizen science as a methodology has been used in a variety of different contexts and purposes, and its trans-disciplinary usage has given rise to multiple definitions. On a broader level, the concept revolves around the **participation of the public in scientific research**. Such a participation can happen on a variety of levels, such as, **collection and provision of knowledge and data associated with it, analysis such information, designing preferable future outlooks, or defining the means for communicating scientific information**.

The PSLifestyle project uses a **quadruple-helix approach** in all the pilot regions. This involves the **participation of public-sector, businesses, academic institutions, and the public** at large for designing products and services. The labs will run in parallel throughout the project in two stages. In Stage 1, citizens are placed at the centre of discussions for co-designing the PSLifestyle tool to reflect local realities. In Stage 2, insights, information, and data from citizens is used to work with policymakers, businesses, and academic institutions to design the pathways for systems change to support citizens in the transformative change. In the following report, the focus is more towards the Stage 1 of the citizens science labs, i.e., focusing on citizens. More information for the design process for the labs, along with its theoretical underpinnings and governance framework for the labs could be explored in the previous public reports for the project.

Post localization of the questions and answer options and contextualization of the data, the next step for the project was to test the first version of the PSLifestyle test with citizens through living labs methodology in the 8 countries. During the project, three such iterations of the citizen science labs will be conducted, to not only inform the citizens on different facets of sustainable lifestyles, but also to develop the tool based on user feedback to increase its accessibility to the citizens, making it closer to their local realities.

The first iteration of the labs focused on introducing citizens to the concept of sustainable lifestyles along with an introduction to the PSL test. The second iteration of the labs will focus on designing the “smart actions” which people can take to reduce their consumption footprint and testing the frames which can make those actions more appealing to citizens. The labs will also prospectively test ways which would make users return to the tool and engage them more. Finally, the third iteration of the citizen labs will engage users on understanding motivational factors which would help in adapting the tool and associated actions to a large population of citizens. The figure below shows a timeline for the labs with their focus areas (Figure 4).

Lab Iteration 2 – Testing and localising the “smart actions” for all partner countries



Lab Iteration 3 – Understanding motivational factors which drive people's lives

Figure 4 Lab iterations with their focus areas

Planning the first iteration

The aims for first iteration of the labs, as mentioned above, were two-fold – firstly, to impart knowledge and information on sustainable lifestyles and different lifestyle domains of **housing, food, transport, and things and purchases** to create a level of understanding with the lab participants and secondly, to test the first version of the PSL tool, the calculator, at this stage and gather citizen feedback on different facets of it.

The planning for the initial sessions was done jointly by the task owner Sitra and the Work Package leader Centre for Sustainable Consumption and Production (CSCP). This goes back to the mission of the project – creating locally relevant content which resonates with the everyday lives of local citizens. This was further observed in the different lab sessions, as each of the partners created their own means to carry out the labs while certain aspects remained similar. As a support for the planning of the labs, three content and agenda planning support trainings and workshops were conducted by CSCP with support from different project partners such as ICLEI, Solita, and Finnish Innovation Fund Sitra.

Finally, the labs were scheduled between the 1st week of May 2022 and 1st week of June 2022. While some partners decided to focus the labs on a single city of their country, others decided to hold the labs in multiple cities, based on their own preferences and resources. A more detailed information on the city's labs were planned are mentioned in the below table (Table 2).

Country	Cities where Labs were planned
Estonia	Tartu, Tallinn, Narva
Finland	Lappeenranta, Tampere
Germany	Wuppertal
Greece	Athens, Xanthi
Italy	Parma, Prato, Verona
Portugal	Lisbon
Slovenia	Ljubljana
Turkey	Izmir

Table 2 Cities where labs were planned

Lab Iteration 1 – Meeting 1

With a focus on introducing citizens to the concept of sustainable lifestyles, during the planning phase it had to be ensured to balance the theoretical information provided to citizens with dedicated sessions focusing on interactions with citizens. This was one of the learnings from a previous report for the project focusing on gathering learnings from multiple citizen science projects titled "[Citizen Science for Sustainability](#)". Thus, while planning the agenda of the project this was given a top priority. Apart from a session on sustainable lifestyles, other important content areas were prioritized, such as **increasing citizens knowledge on the role of individuals in association with climate change and with respect to other stakeholders, introduction of key lifestyle domains of housing, travel, food, and things and purchases, and dealing with the feelings of helplessness and hopelessness which may arise in citizens**. In the first meeting we also collected citizen feedback on participants' understanding of the concept of sustainable lifestyles and its application in their day to day lives and participants' impressions on their role as an individual, with respect to other actors, in advancing the share of sustainable lifestyles.

Further, based on the priorities of the project partners, it was decided to have a larger agenda on living well within limits, which meant also presenting the [planetary boundary](#) framework to the citizens. Local partner organizations were provided with a suggested agenda which they were free to contextualize based on their local priorities. This allowed partners to plan the sessions in ways which would be useful in engaging with their target group. Partners were further free to choose the place and context in which they would like to hold the first session. This allowed different partners to get creative and plan the sessions which they felt would attract a diverse group of citizens. For example, the Slovenian team held the first meeting as a dinner while the team in Turkey organized the first session as a part of larger event and a report launch. The complete agenda for the labs is available in Annex II.

Lab Iteration 1 – Meeting 2

The agenda for Meeting 2 was more fixed as the focus was to collect citizen feedback on the first version of the PSL test. Thus, doing the test and collecting feedback was a big part of the process. To facilitate this information collection, different methods were researched by the lab planning partners before suggesting a few methods to the local partners which were felt to be useful in collecting information from citizens in such a

setting. However, like the previous meeting, the methods were only suggested as example methods which could be utilized by the local partners.

Keeping in line with the dual of understanding citizen feedback on two major themes, the sessions subsequently were divided based on these two themes. The first of them was the content track where the focus was on the citizen understanding of the questions, the answer options, and the result of the PSLifestyle test. The second was gathering user feedback on the look and feel of the tool which was carried out through the “gallery walk” method. Gallery walk is a common method used in teaching and is termed as an active learning strategy. The method involves putting different information sheets on which feedback is to be collected across the room allowing the participants to walk around the room and give feedback on the different information sheets. For the project itself, this meant displaying different pages of the web tool across the room and allowing users to walk in groups and provide their feedback on the different pages or on the questions. A further detailed agenda for meeting 2 provided as Annex II.

Procedure for collecting information

The information collected by different local partners from the workshops needed to be digitized, translated, and organized so that it could be utilized by the different partners to further design the tool and make changes to the present version of the tool based on citizen feedback, keeping in line with the co-creation ideals of the project. This further needs to be ensured to build trust with returning participants of the workshops to show the value of their feedback.

For collecting this information, templates for created by the Task leader Finnish Innovation Fund Sitra with the support of the partners Solita and CSCP. Both the partners assisted in the design of the templates bringing in different perspectives – Solita bringing in their experience in service design while CSCP providing comments based on successfully leading citizen focused projects.

Results

In all, **the labs were able to attract 255 participants in the first meeting and 236 participants in the second meeting across the eight countries.** Further, the labs provided tremendous **insights on citizens understanding of sustainable lifestyles under the 4 lifestyle domains (housing, transport, food, things and purchases), their perceptions and feelings arising on using the PSLifestyle tool, and comments on the**

overall design of the tool and the questions. These will influence the later versions of the tool and responses will guide the place sensitive strategies to disseminate the tool to the citizens once it is launched.

Insights from Meeting 1

The first purpose of Meeting 1 was to gather participant impressions on different facets of sustainable lifestyles laid out in the project – housing, transport, food, and things and purchases – and have been gathered through a variety of activities carried out by the project partners based on their local context.

- **Housing** – This was **one of the areas where many participants across the countries felt that they had a lower influence on the changes that would be possible.** While **participants were quick to identify changes such as the type of energy (electricity, heating, and cooling) in the house and insulation and renovation being big impact changes, living in rental homes reduced their opportunities to make these changes.** In general, across the countries, participants identified living in rental homes a big barrier to make these changes. Other than this, **economic concerns were another reason for their inability to make these changes. While participants did understand the later savings which could be realized after making these changes, renovation and insulation were identified expensive and harder to do.** Thus, many said that with support from authorities, they would be willing and open to these changes. **Economic concerns were also raised for modernizing homes with energy saving devices, especially in Turkey where this was identified as a major barrier.** Another interesting aspect identified by participants, especially in Germany and Slovenia, was from those living in **historical buildings which are protected. Participants highlighted that because the buildings were protected, it was harder to make changes in the building because of construction codes.**
Apart from these, participants raised concerns on lack of comfort in reducing home temperature and many felt that because of COVID-19, heating and cooling homes had become unavoidable as homes have needed to be reoriented to also act as workspaces for people working from home. While many participants also highlighted that **COVID-19 had given them the opportunity to reconfigure their homes and reduce clutter and also closely monitor energy consumption in their homes.** Though seasonal preferences were widely discussed in the labs based on the climate of the country, for example, **colder temperature in the northern countries reduces the willingness to turn down**

home heating in the winter and vice versa for cooling in the summers in southern countries.

Finally, **lack of awareness on different facets of home energy consumption was also identified as a big barrier by participants.** These range from lack of clarity on different types of energy options available and which would be better to how to heat homes efficiently and the choice of heating options. Thus, they felt having better access to such information would potentially help them reconfigure their practices. Further to this, many participants with an immigrant background in the Finnish labs identified lack of available information on these aspects of housing as a huge barrier. Size of the homes was not something actively discussed in the labs, as only participants from Germany identified reducing living space an extremely hard change to go forward with.

- **Transport – Transport was another avenue where people felt they had little agency with making changes, but this was also a section where more differences not only between countries but also within the country were highlighted.** The **most common challenges** raised by participants across the eight countries concerning mobility were **related to public transport. Participants across the countries felt that public transport was largely unreliable and lacked connectivity. This was specifically highlighted by participants who lived either in rural areas or in suburbs and felt that lack of such an option increased their car dependency.** There were also **concerns around the convenience** while planning routes from public transport as they lacked a single point service to help with this. This was specifically raised in the Slovenian labs where participants had an engaged discussion on what could increase their public transport usage. **Finally, participants in certain countries, for example, Finland and Greece, also felt that public transport was more expensive in smaller cities than urban centers.**

Apart from public transport, a major theme that emerged from the discussions across the countries was on car usage. **Most participants found it hard to completely give up their cars, and the most highlighted reason was convenience.** Participants felt that the convenience of owning a vehicle was unparalleled though they did understand the high emission impact associated with cars. **One way most participants were willing to circumvent this was through switching to electric vehicles, though it was highlighted in multiple countries (Germany, Slovenia, Greece, Portugal, Italy) that electric vehicles at present are just not affordable.**

Participants in Turkey further discussed about **other forms of mobility solutions such as car-sharing to move away from car ownership, though they felt that there was a clear lack of access to such solutions in their region and space for new enterprises to come in**, but still felt cars would be hard to replace overall. Similar sentiments were expressed in Slovenia, where it was highlighted that owning a car was unavoidable especially for families. **Participants from Estonia and Italy further elaborated on the lack of awareness of participants on whether to buy new electric car or keep a relatively new internal combustion car.**

Bikes were another form of mobility option frequently brought up in discussions though not across the board. But a common theme was again **lacking bike infrastructure, especially away from the city center**. There were also seasonal differences in biking habits, for example, participants in Finland and Estonia highlighted that bike would simply not be an option during the winters. But there was an agreement that switching short distance car travel with bikes and walking could be an easy way to reduce environmental impact while being healthy. **Health was identified as one of the biggest motivations for making this switch.**

Finally, there were some discussions around flying but these were quite place dependent. For example, **participants in Finland and Greece felt that the countries position makes land travel harder and time consuming**, thus not a viable option, whereas **participants in Germany felt that train prices were still more expensive than flights and sometimes even cars to be considered as a viable option for closer travel.**

- **Food** – Food is the category where **participants across the eight countries felt they had a lot of agency and potential for impact.**

The **most discussed topic within the food domain was choosing locally sourced and organic food and, in most cases, seasonal too**. It was noted in all the countries that there was a concern about where the food comes from and how it is grown, specifically its **impacts on health, which came out to be the biggest motivator for citizens**. With this, it was also highlighted by the participants that picking organic or healthier food choices was much more expensive and thus **financial concerns restricted people's ability to pick more of locally sourced organic food**. Participants identified that support from governments and businesses can make these choices much easier.

The next most discussed topic in the food domain across the countries was food waste. **Participants across the countries found it extremely important to cut down on food waste**, and for example, from Slovenia suggested taking simple steps in the home such as planning their grocery shopping, using leftovers, and

storing food in a correct manner. However, many participants, for example from Greece, also highlighted the **lack of awareness on how store food in a better way which help reduce food waste.**

While being the one of the actions with a very high impact, becoming a **vegan/vegetarian was not the most discussed aspect in the labs across the countries.** However, participants in Germany discussed about the **challenges in big social situations to have the possibility to have vegan/vegetarian food in settings such as summer barbeques, cafeterias, etc. and further elaborated on the additional time required for reconfiguring behaviour due to lack of proper knowledge and information.**

Lack of knowledge and information was further discussed in other countries such as Slovenia and Greece, as **people mentioned not having enough resources, example, recipes for making vegan/vegetarian food.** Further participants felt uncertainty regarding sustainability of plant-based foods or had concerns regarding health impacts.

- **Things and Purchases** – When it comes to things and purchases the most commonly discussed and **recurring themes were the excessive consumption in societies and the possibility to transform consumption towards more second-hand and rental models.** There were further **discussions on the lack of longevity in the products consumed even when people would like to keep them for a longer period of time.**

When it came to excessive consumption, **most participants reflected on the clutter around their houses especially during Covid-19 and felt the need to cut back though participants also felt that their online purchases also increased during this period.** There were also discussions around how common excessive consumption is, for example, participants in Estonia mentioned **feeling like “freaks” for wanting to reduce consumption and caring about sustainability.** Participants also felt that it was **hard to understand the impacts of consumption due to long and complex supply chains and lack of awareness on labels focusing on sustainability.** It was also highlighted that **less sustainable products are cheaper which influences consumption decisions and overall participants felt that lack of income has an impact on both quality and quantity of consumption.**

Shifting consumption towards second-hand products our other innovative business models such as rental were well appreciated and discussed across the countries. Though, **concerns were raised based on the product category.** For example, participants in Germany highlighted that it was **easier to choose**

secondhand clothing options instead of fast fashion, but there were concerns around quality when it came to second-hand electronics. Concerns were also raised regarding lack of accessibility to second-hand and rental options, for example, in Turkey and Greece where participants highlighted the immense need for such options and participants in Slovenia also highlighted the need for popularization of the concept of ‘library of things’ where people could borrow things they wouldn’t use every day.

Participants also felt that most of them try to use products for their complete life cycle but felt that it has become considerably harder. There were concerns that the quality of products has reduced considerably and while they would want to keep them for longer, it feels impossible. Participants from Slovenia and Germany also raised that they would be very **interested in repairing old products but felt that company policies and design of products made this harder.**

When it came to the understanding of “**Role of individuals with respect to other actors**”, the following quote from one of the participants from Greece, summed up the discussion well.

“Why should we change in our everyday lives and larger organisations, businesses, etc. seem to not be making a move to change?”

The Table below (Table 3) summarizes the discussions in this regard across the eight countries.

Category	Summary
<p>Lack of Agency</p>	<p>As was also clear from the previous discussion on different domains – housing, transport, etc., – for certain domains such as housing and transport, there was very little agency in participants to recognise their role even without a systemic lock in. Even within other domains, discussions ranged more on the role of the system over the individual, for example, actions becoming more economically feasible.</p> <p>This lack of agency could in some cases was also because of lack of proper knowledge or information, for example in the food domain, and lack of time and resources.</p>

<p>Locked in the present system</p>	<p>When prompted to talk on their role in the system with respect to other actors, this was the most brought up aspect. Participants felt that their lack of agency to make changes comes from being locked in the system and little support from other stakeholders. This was quite evident from the housing discussion, where living in a rented apartment meant little control over the energy and insulation of the household.</p> <p>Transport was another domain where this was quite evident, for example, lack of access to public transport as a viable and easy option.</p> <p>Another interesting aspect brought up was being socially locked in the system. For example, in the food domain, lack of vegan/vegetarian options at social places such as barbeques, cafeterias, etc. Participants from Estonia felt that consuming less was akin to being “crazy” which can also be taken a sign of a social lock in.</p>
<p>Feelings of Hopelessness</p>	<p>Participants were unable to recognise the need for making changes if other stakeholders around them (businesses, policymakers) wouldn’t make the change the required changes too, which created feelings of hopelessness. They felt does one person changing even matter.</p>
<p>Hard to break habits</p>	<p>In cases where participants did recognise the need for making the change, i.e., very high agency, they felt that breaking old habits is hard and it requires time and resources. There was also an agreement that if stakeholders around them could make the changes easier, for example in transport domain it would be easier to plan trips with options other than driving, their willingness to change would be much higher.</p>

Table 3 Participant discussion on the role of individuals with respect to other actors

Insights from Meeting II

After quickly giving a brief introduction of the project to new participants attending Lab II, participants were introduced to the first version of the PSL tool as the purpose of the meeting was to gather participant feedback on the tool. The feedback was divided into three parts – **reflections on the experiences of the tool and the results; reflections on the visual design and functionalities of the tool; and reflections on the content of the tool.** Participants were further prompted to reflect on their day-to-day lifestyle and their local realities to make sure that the gathered feedback would help enhance the tool to reflect their realities and challenges.

- **Reflections on the experiences with the tool and the results** – To gather these insights, post doing the test, participants were prompted with a set of questions. Generally, participants across the countries felt demotivated seeing the results of the test and had a variety of questions regarding the methodology, data sources, and whether it was possible to achieve the 2030 target included in the tool. Participants in a few countries did feel somewhat motivated to do more but were both surprised with the number of changes required and concerned how much they could do more alone. The results are summarized below (Table 4).

Prompt Question	Summary of Participant responses/feelings
How did the result make you feel?	<ul style="list-style-type: none">• How the participants felt on seeing the results depended somewhat on how big or small their footprint was as compared to the national average. Participants with footprints lower than the national average felt proud upon seeing the results. Only in certain cases, for example in Italy, participants whose footprint was higher than the average felt motivated to act.• Negative emotions – Irrespective of their footprint with respect to the national average, participants in almost all countries felt hopeless and demotivated seeing the amount of reduction required to fit within the 1,5-degree lifestyle target. In certain countries, such as Slovenia, participants wanted to know more on what they could do, however that was an exception as compared to the

	<p>others. Many felt whether they could do enough to actually reach the target and pondered on the some of the systems they were locked in as certain actions seemed impossible.</p> <ul style="list-style-type: none"> • Many participants also felt the need for greater explanations - as the concepts felt a bit over the top - and for more explanations on the methodology and how things are calculated. • Many felt the questions in the test were a bit vague and did not take into account the good actions they were already doing in their private lives.
<p>What surprised you?</p>	<ul style="list-style-type: none"> • Most participants were surprised to see the difference between their own footprint and the 1,5-degree target, which was also linked to feelings of hopelessness. This was especially mentioned in Germany, Italy, and Finland. • The reasons why participants were surprised by the results also varied. While the 1,5 degree target was a common theme, for example, participants in Slovenia were surprised to see their own high footprint as against the Slovenian average and in Turkey they were surprised to see the differences in footprints, even when participants had largely similar living conditions owing to transportation. • On a more positive note, participants in Slovenia and Estonia were surprised by the ease and speed of the test. • Participants in Greece, Portugal, and Turkey were surprised that the test did not reflect the positive behaviours they already undertaken.

<p>Did the results motivate you to act?</p>	<p>The response to this question varied between the countries.</p> <ul style="list-style-type: none"> • Participants in Finland, Italy, Portugal, and Slovenia were motivated to act more and discussed on further actions they could take. In Estonia too participants discussed retaking the test to understand how the results of their test, and their own lifestyle, could be improved. Participants in Germany highlighted that they would've been more motivated to act had actions been presented to them with the results. • In all countries barring Slovenia and Estonia, participants felt the results were demotivating. Some of the reasons explained by participants were due to the target being too low, current practices not being taken into account, and less agency in certain areas such as living and transportation. • Participants also felt that certain high impact behaviour such as fast-fashion consumption was missing from the test which reduced their motivation for more positive actions.
<p>What could you already do to lower your footprint?</p>	<ul style="list-style-type: none"> • Finland was the only country where participants mentioned specific actions they were willing to do such as, less flying, more sustainable diet, and switch to sustainable electricity. • Otherwise, the discussions focused on improvements in tool such as more knowledge/context provided and presentation of actions in the tool.

Table 4 Participant reflections on the experiences of trying out the PSL tool

The below table further groups the list of emotions arising in participants based on their responses to the above questions (Table 5).

Prompt Question	Summary of Participant responses/feelings
Results of the test	<ul style="list-style-type: none"> • Negative and passive emotions such as guilty, frightened, demotivated, discouraged, anger, pessimistic. • Surprised with their own footprints, country average within their country, etc.
1,5-degree target	<ul style="list-style-type: none"> • Pessimism, overwhelmed with the changes required, helplessness, unmotivated

Table 5 Summary emotions/feelings based on participant feedback

- **Reflections on the visual design and functionalities of the tool** – While the overall design and userflow of the tool was appreciated by most participants, lots of bugs and reconfigurations were highlighted by the participants, in order to ultimately to make the tool more inclusive and attractive. As a starting point, the below figure (Figure 5) shows a simple userflow for the Beta version of the tool. The user starts by selecting their country and language and proceed to the main landing page of the tool. Users select “Study your Lifestyle” for now and proceed to answer the test questions. At the end, they are shown with the result with additional information such as footprint with respect to the country’s average and difference from the 1,5-degree target along with top 3 areas to improve. Citizens can further understand the breakdown of their footprint in more detail. More information on reflections on pages is summarised in Table 6.

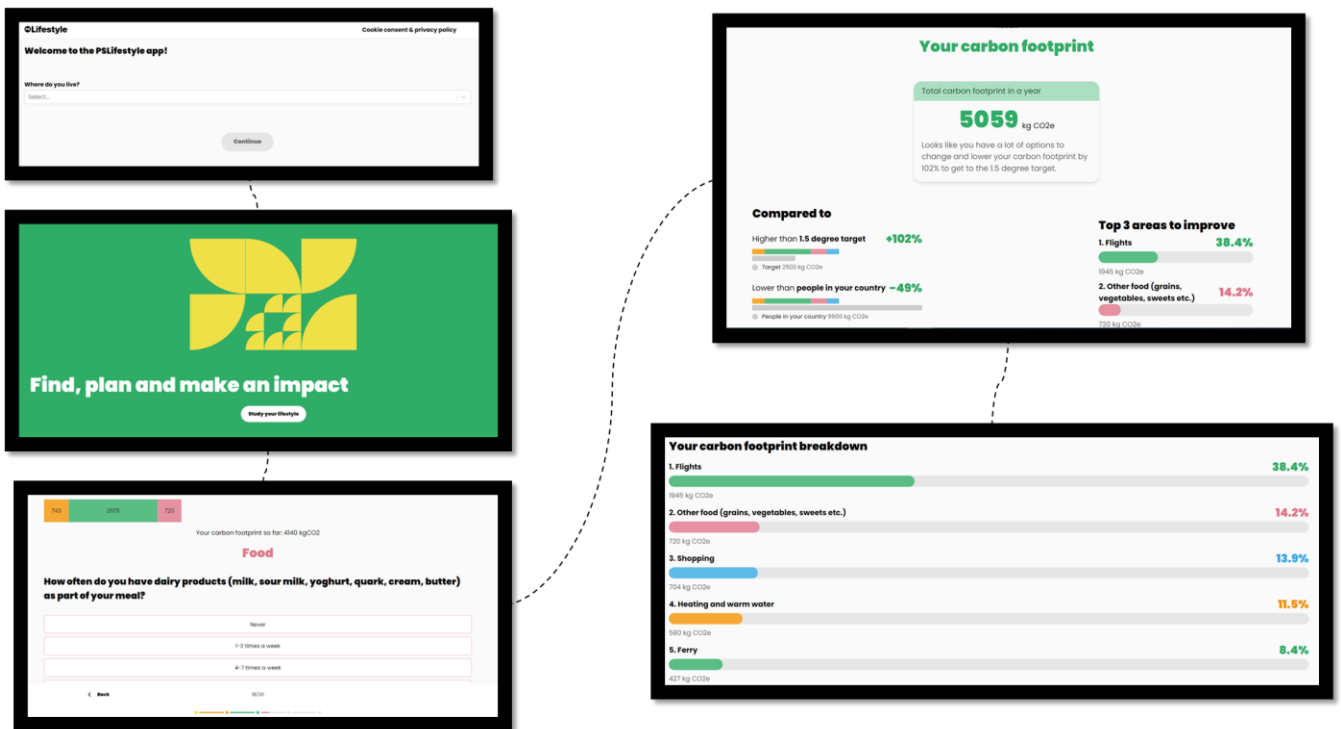
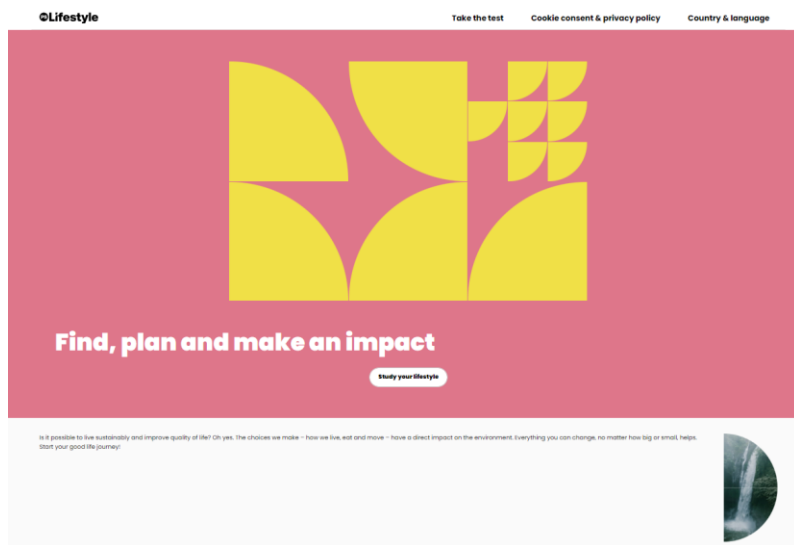


Figure 5 Userflow for the Beta version of the PSL tool

Specific Page	Summary of feedback
<p>Country selection/Landing Page</p> <p>©Lifestyle Cookie consent & privacy policy</p> <p>Welcome to the PSLifestyle app!</p> <p>Where do you live? Select... v</p> <p style="text-align: center;">Continue</p>	<ul style="list-style-type: none"> • Some participants did not like how the page was designed and suggested to change the drop-down menu with country flags. • Participants further requested for an increased font-size. • Some participants also suggested the country to be selected automatically based on IP-address.

	<ul style="list-style-type: none"> • There was also a request from participants to add more languages to the tool to make it more inclusive for immigrants.
<p>Cookie consent and Privacy policy</p> <p>Summary of PSLifestyle online tool privacy statement</p> <p>Pilot phase</p> <p>When you use or visit the PSLifestyle online tool at https://pslifestyle-app.net/</p> <p>Purposes We process your personal data for two purposes: (1) to provide, manage and protect the PSLifestyle online tool and (2) to analyse web traffic and user experience on the tool.</p> <p>Storage IP addresses, security logs, etc. are deleted within 2 years. Cookies stored on your device are deleted after you have deleted them or at the end of the cookie expiry time (as set out in our cookie declaration).</p> <p>Legal Basis (1) Our legitimate interests (for providing the PSLifestyle online tool to you and to ensure its security) and (2) your consent to our analytics cookies.</p> <p>Processors We may use trustworthy service providers that only process your personal data on our behalf ("processors"). The particular processors may be subject to change over time.</p> <p>Additional personal data processing when you register as a user of the PSLifestyle online tool and provide answers in the tool.</p> <p>Purposes We process your personal data for the purpose of calculating your carbon footprint and providing recommendations to reduce it based on the consumption data provided by you.</p> <p>More details If you choose to use the PSLifestyle online tool as a signed-in user, we will link your email address with the answers provided by you within the tool (consumption data). As a result, you will be able to follow your consumption and its effects on carbon footprint in the long run.</p> <p>Storage Your email address will be deleted if you contact us in order to exercise your right to delete personal data from the PSLifestyle online tool. We may also delete your email address if you stay inactive for a longer period. After deleting your email, we are no longer able to link your answers (consumption data) to you. Your answers (consumption data) will in any case be separated from your email address within 2 years after which it is no longer possible to identify you based on that information.</p> <p>Legal Basis Your consent given at the time of registering as a user of the PSLifestyle online tool.</p> <p>Non-registered users If you have not signed in as a user of the tool, we will not collect information that can be used to identify you. Your answers within the tool (consumption data) stay anonymous.</p> <p>Further processing The answers provided within the PSLifestyle online tool (consumption data) can be shared on anonymous basis for the purposes of researching and developing environmentally positive everyday life solutions. To this end, anonymised data can be shared and published on its Open Data Portal platform.</p> <p style="text-align: center;">Read more</p>	<ul style="list-style-type: none"> • Many participants felt that they missed the privacy policy because of which they felt deceived that something was hidden from them. • There was also a suggestion to improve the visibility of the "Read More" button and offer the text in more languages. • Overall, there was an agreement that most participants did not care much about it and would have missed it if not highlighted.

Landing Page



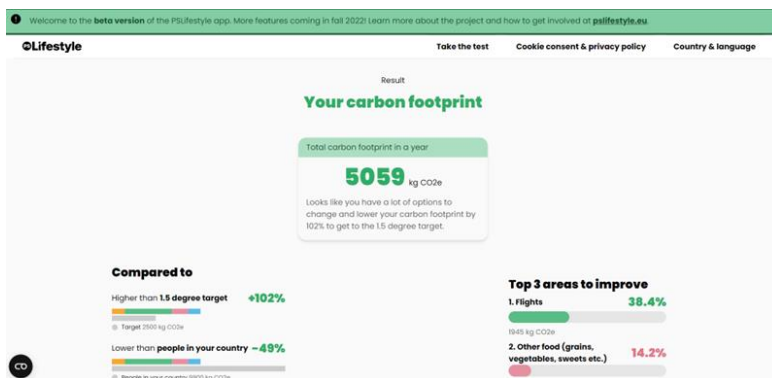
- Participants suggested to increase the size of the “Start” button to make it more inviting.
- Overall, the comments on the page were positive, however participants suggested to add more information on links, especially on the content and 1.5-degree lifestyles

Questions Page

- Overall participants liked how the questions were presented. However, many design suggestions were suggested.
- Participants were a little confused on the progress bar at the top and requested clarity and some even suggested that it was unnecessary.
- There was a suggestion to increase the font size.
- Participants also suggested to make the “Read More” button

more visible and improve the contents.

Results Page 1



- Participants suggested to make the interpretation of results easier and add links on more information on the target goal.
- More comments were made on improving the colour scheme of the page.
- There were mixed opinions on the line graphs, as some really liked them while others suggested to have pie-charts.
- Participants also felt to change the country average comparison with “people around you” or “people you know”.
- There was also a request to add sharing function to share the results on social media platform and find more innovative ways to

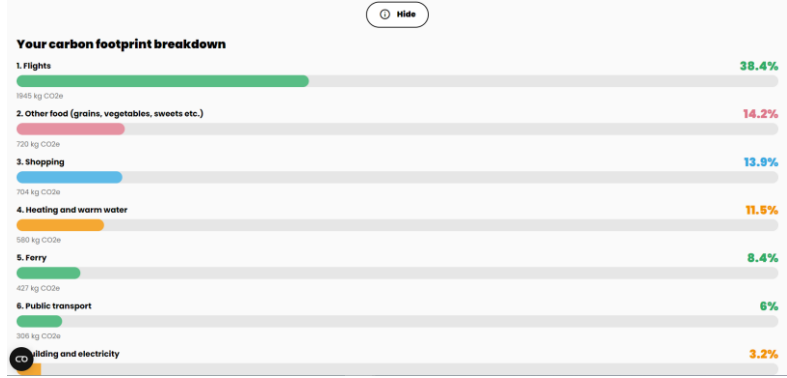
	<p>show the result, i.e., comparing to number of earths for improving understanding.</p>																								
<p>Results Page 2</p>  <table border="1"> <caption>Your carbon footprint breakdown</caption> <thead> <tr> <th>Category</th> <th>Percentage</th> <th>kg CO2e</th> </tr> </thead> <tbody> <tr> <td>1. Flights</td> <td>38.4%</td> <td>1845 kg CO2e</td> </tr> <tr> <td>2. Other food (grains, vegetables, sweets etc.)</td> <td>14.2%</td> <td>720 kg CO2e</td> </tr> <tr> <td>3. Shopping</td> <td>13.9%</td> <td>704 kg CO2e</td> </tr> <tr> <td>4. Heating and warm water</td> <td>11.5%</td> <td>580 kg CO2e</td> </tr> <tr> <td>5. Ferry</td> <td>8.4%</td> <td>427 kg CO2e</td> </tr> <tr> <td>6. Public transport</td> <td>6%</td> <td>306 kg CO2e</td> </tr> <tr> <td>CO2 Emissions and electricity</td> <td>3.2%</td> <td>161 kg CO2e</td> </tr> </tbody> </table>	Category	Percentage	kg CO2e	1. Flights	38.4%	1845 kg CO2e	2. Other food (grains, vegetables, sweets etc.)	14.2%	720 kg CO2e	3. Shopping	13.9%	704 kg CO2e	4. Heating and warm water	11.5%	580 kg CO2e	5. Ferry	8.4%	427 kg CO2e	6. Public transport	6%	306 kg CO2e	CO2 Emissions and electricity	3.2%	161 kg CO2e	<ul style="list-style-type: none"> • Using emoticons to show feedback and icons for clarity as just comparing colour scheme with domain (housing, transport, etc.) was hard to understand. • Some suggested to change to pie charts, however participants seemed to be divided.
Category	Percentage	kg CO2e																							
1. Flights	38.4%	1845 kg CO2e																							
2. Other food (grains, vegetables, sweets etc.)	14.2%	720 kg CO2e																							
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5. Ferry	8.4%	427 kg CO2e																							
6. Public transport	6%	306 kg CO2e																							
CO2 Emissions and electricity	3.2%	161 kg CO2e																							

Table 6 Summary of participant feedback on visual design of the tool

- **Reflections on the content of the tool** – While reflecting on the content of the PSL tool, the participants had a myriad of suggestions to add to the tool. These suggestions ranged from general comments on how certain questions and answers were presented and framed to new questions which could be added to reflect lifestyles in a better way. In the process, the participants have suggested an addition of 30 new questions across the eight countries. The most common comment received in these discussions was to add more information about what is taken into account and what this calculation means which can allow people to give more thought-out answers and allow the ones who are more interested to research more. The complete list of questions mentioned by participants is provided as Annex X, while some of the suggestions are mentioned in the below table (Table 7). A full list of comments on the questions is also provided with Annex III, meanwhile example comments received on the questions are listed in Table 8.

Participant Country	Question
Turkey	<ul style="list-style-type: none"> • Do you smoke? And how often? • How much disposable products, such as plastics do you use per day?
Estonia	<ul style="list-style-type: none"> • Questions around home cultivation of food. • Question on consumption of services such as gel nails, hair coloring, etc. • How often do wash your clothes?
Finland	<ul style="list-style-type: none"> • Adding questions surrounding borrowing of items in consumption of goods. • Questions on electronics goods as mining has a huge impact.
Greece	<ul style="list-style-type: none"> • Questions on using solar panels. • How do you cook? Gas/induction hob? • Questions on usage of detergents and other chemicals?
Italy	<ul style="list-style-type: none"> • Question on waste sorting • Question on mobility sharing • Question on use of air conditioning as it has become much more prevalent in Italy
Slovenia	<ul style="list-style-type: none"> • Question about locally sourced or home-produced food. • Question on largest or most energy intensive purchases in the past year

Table 7 Examples of suggestions for additional questions which can be added

Question	Relevant Country/s	Comments from participants
When was the house built?	Finland, Portugal	<ul style="list-style-type: none"> Limited range of answers proved. Include more options. Ask energy class directly.
What is the primary heating method of your home?	Estonia, Germany, Finland, Slovenia, Italy	<ul style="list-style-type: none"> Participants suggested to have images next to the answer options as many felt they were not aware of what was represented. Have the ability to choose two options as some houses have two heating methods.
How many kilometres per week do you typically drive?	Estonia, Finland, Germany, Slovenia, Italy, Portugal, Greece, Turkey	<ul style="list-style-type: none"> Calculation of KM in answer option is hard to estimate per week. Is driving during work included? – Was especially raised by participants who drove taxi to earn a living. Provide options in KMs travelled daily instead of weekly.
How hours per year do you normally travel by train?	Estonia, Finland, Germany, Slovenia, Italy, Portugal, Greece, Turkey	<ul style="list-style-type: none"> Possibility to insert a value instead of choosing an option. Should have longer time frame than one year.
What describes best your eating habits?	Estonia, Finland, Germany, Slovenia, Italy, Portugal, Greece, Turkey	<ul style="list-style-type: none"> More options on dietary choices. Answer option “I’m neither vegan nor vegetarian” should be updated “I don’t have any dietary restrictions” or some

		other wording which doesn't seem negative.
How often do you buy second-hand goods or refurbished electronics?	Estonia, Finland, Germany, Slovenia, Italy, Portugal, Greece, Turkey	<ul style="list-style-type: none"> • Participants requested to separate into two questions as more common to buy second-hand clothes than electronics. • Options regarding repairing goods and bartering should be added as options.

Table 8 Examples of participant feedback on the question in PSL tool

Other than the aforementioned comments and suggestions, several key issues and clarifications were raised by participants. One of the most important clarifications requested by the participants was around work life versus personal life in the test. Many participants felt little agency with negotiating with flying for work reasons or driving for work reasons and wanted clarity around them. Further, both of these are actions with a high impact, a lot of concerns were raised around them. Some participants also highlighted that because of their socio-economic situation, it was hard to carry out actions for home insulation, hence the footprint from their housing was much higher than expected. These discussions took us again in the dimension of the role of individual with respect to other actors and have given a lot of insight to the project partners around communication strategies which must be utilized going forward.

Conclusions and key lessons learned

Apart from the lessons learned from the citizens for the development of the tool, the citizen science labs have also greatly contributed to the overall project in terms of engagement strategies to be designed for the project at a later stage and increased the local understanding of partners. The overall learnings of the citizen science labs and the tool development process can be divided into 4 core themes – **Learnings on organisation of the labs, learnings on the tool itself which has formed the core of the results section of this report, learnings for later stakeholder engagements to be conducted as part of Work Package 3, and overall citizen engagement strategy for the project.**

- **Learnings on Organisation of the labs** – With two more lab iterations to go, the organisation of the first iteration of citizen science labs has provided important learnings to the project partners on the organisation of the next two iterations. The first of them is centered **around the timing of the labs and communications to citizens**. The project partners reflected that the **timing for communications to start has a huge impact on the participation recruitment and it was discussed that the earlier these starts, the better it is**. There was also a realisation that communication with the registered participants before the labs can act as a good push to increase participation in the labs themselves. Further, **increasing participant engagement during the labs was recognised by the participants as something to do more of in the future lab iterations**. While, the present labs included many such components, project partners also found it useful to have informational components in the lab design which were less engaging.
- **Learnings for tool development** – The citizen science labs have immensely contributed to the development of PSL tool. **The learnings itself can be divided into three core themes – feedback on visual design, feedback on the content and questions of the tool, insight on emotions and feelings using the tool**. Starting from feedback on visual design of the tool, while **overall the functioning of the tool was well received**, many participants were **unhappy with the colour scheme especially on the different domains** (housing, transport, etc.) and requested more clarity around it. Many participants also felt that **the call to action from the tool could be emphasised further**, such as the button for starting the test which they felt was a bit hidden. There was also a **request to provide more contextual information on relevant points in the tool, for example on 1,5-degree target, assumptions and logic behind the calculations, and information on sustainable lifestyles themselves**.

Many participants felt that the **scope of questions in the tool need to be expanded as they missed important parts from their lifestyles**. From **the eight countries, a more than 30 new questions request was received**. While this would be further discussed within the project consortium, it **also presents an interesting dilemma for the project partners as increasing the number of questions in the test could lead to the test becoming more tedious and reduce the number of test takers**. Further, participants gave important and much needed feedback on the framing of questions in the tool along with feedback on the answer options, the different units of measurements used, and their understandability and relevance.

Finally, **insights on the feelings and emotions arising in participants would support the further designing of the tool and framing of actions.** In general, **most participants felt pessimistic and guilty seeing the results of the footprint test and were overwhelmed seeing the 1,5-degree target presented in the tool.** This again presents an **interesting problem to solve for the project partners – how to show information which can seem negative or overwhelming while keeping participants motivated and willing to take more actions.** One way of doing this would obviously be taken care of in the next set of the workshops focusing on actions that people can take, project partners will continue taking these learnings further to refine the tool.

- **Learnings for later stakeholder engagement –** Discussions around the different domains of the project (housing, transport, etc.) and the role of individuals with respect to other actors have also given **project partners a lot of insight on the local barriers participants face in taking for sustainable actions.** These learnings will be taken further in work package 3 of the project in terms of policy insights, and workshops with policymakers and businesses. **One such barrier highlighted across all the countries was the problem people living in rental homes face when it comes to the energy type (renewable, non-renewable) and increasing insulation in their homes.**

While the project itself will continue to focus on individuals, **project partners were reminded once more that ultimately citizens need to be supported on their sustainability journey by other stakeholders such as businesses and policymakers.** This was also brought up in the labs in multiple countries as citizens felt that they alone couldn't solve the climate ecological crisis and would require support in the process. Some potential actions such as expanding mobility sharing possibilities from businesses and improving public transport and biking infrastructures have already been highlighted in this report but many more such possibilities will be highlighted in the later works of the project, where specific focus will be put on identifying barriers for individuals' actions.

- **Learnings for overall project citizen engagement strategy –** An important learning to come out of the labs was **the value of understanding motivations which drive different actions which people take.** While this will be explicitly focused on in the third iteration of the citizen science labs, on discussions with participants, important insights on such motivations were also mentioned. For example, for actions associating with food or health was cited as the biggest motivation. It was the same for actions associating with active mobility such as

biking and walking. Participants highlighted that the positive health benefits of both of these actions make them more appealing. Such insights would be further developed and used to improve the local engagement strategies of the project partners to reach out to a diverse set of citizens.

The first iteration of the citizen science labs has set the stage for the co-creation process improving the PSL tool before its official launch next year. Feedback from participants on the design of the labs would also help the project partners in delivering an improved second and third iterations of the labs later during the year and next year respectively. The Beta version of the PSL tool can be accessed [here](#).

Annex I

Topic	Activity
Welcoming the participants	<ul style="list-style-type: none"> • Receiving the participants • Greet everyone
Opening the event	<ul style="list-style-type: none"> • Welcoming the participants and introducing the day's agenda • Introduction round
Tuning in	<ul style="list-style-type: none"> • Voting between two options that are related to sustainability
Presentations and discussions	<ul style="list-style-type: none"> • Introducing the PSLifestyle project <ul style="list-style-type: none"> ◦ Discussions with the participants • Introducing good sustainable life <ul style="list-style-type: none"> ◦ Discussions with the participants
Break	<ul style="list-style-type: none"> • Active break
Individual's role as a changemaker	<ul style="list-style-type: none"> • Introducing <u>Pathways</u> • Discussions on individual's role as a changemaker and the society's role in the process <ul style="list-style-type: none"> ◦ What is a sustainable good life? ◦ What is an individual's role and what role society, and corporations play in the change making process?
Break	<ul style="list-style-type: none"> • Coffee and tea break
Wrapping up the day	<ul style="list-style-type: none"> • Presenting the outcomes of the group discussions • Collecting feedback

Ending the event	<ul style="list-style-type: none"> • Thank you for participating and have safe trip home!
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Draft Agenda for Meeting 1

Topic	Activity
Welcoming the participants	<ul style="list-style-type: none"> • Receiving the participants • Greet everyone
Opening the event	<ul style="list-style-type: none"> • Welcoming the participants and introducing the day's agenda • Short introduction on session one • Introduction round
Icebreaker	<ul style="list-style-type: none"> • With how many people have you already discussed on what you learned in the first Living Lab?
Trying out the tool	<ul style="list-style-type: none"> • Participants testing the first version of the online tool • Reflecting the results and the use of the tool
Break	<ul style="list-style-type: none"> • Active break
Working in groups in two parallel tracks	<ul style="list-style-type: none"> • Gallery walk • Content track
Break	<ul style="list-style-type: none"> • Coffee and tea break
Wrapping up the day	<ul style="list-style-type: none"> • Wrapping up the tasks • Presenting ideas from the gallery walk and content track • Collecting feedback
Ending the event	<ul style="list-style-type: none"> • Thank you for participating and have safe trip home!

Draft Agenda for Meeting 1

Annex II

[EE] – Estonia; [FI] – Finland; [DE] – Germany; [GR] – Greece; [IT] – Italy; [PT] – Portugal; [SL] – Slovenia ; [TR] – Turkey

<p>General Comments</p>	<ul style="list-style-type: none"> • In Estonian, "consumption habits" sound better than "buying habits". Or buying- and consuming habits. The word "things" is bad. [EE] • Heating other buildings should increase square meters? [EE] • Some participants asked to harmonize the "timing" of all questions (all weekly or all monthly....) - others instead asked to diversify them better [IT] • The social and economic position of a person can give them the possibility to have more efficient means (house, electrical appliances, car...) which are in general more expensive than those of low quality and higher impact [IT]
<p>Questions to add</p>	<ul style="list-style-type: none"> • Second hand clothes and electronics were the only option under shopping habits - but if you buy secondhand furniture? [EE] • In the case of food, the home cultivation of food was lacking. [EE] • There is a question about pets, but not domestic animals (cow, pig)? [EE] • Beauty products and services? Gel nails, hair coloring. [EE] • Hobbies - what if motorsport? [EE] • You may want to consider asking for a zip code for more detailed information [EE] • OTHER FOOD - Cereals and Confectionery - no questions asked • Take into account the work of the Home Office [EE] • The share of purchases became very large, but there were few tweaking options - maybe you would need more questions? [EE] • How often do you wash your clothes - daily, a few times a week, once a week, less than once a week? [EE] • Repairing clothes? [EE] • Borrowing items should be added [FI] • Reuse food should be added [FI]

- Electronics or mining was absent. [FI]
- What about using solar panels? [GR]
- On which floor do you live? [GR]
- Where in Greece do you live? (island, mountain, north, central, south, etc) [GR]
- Do you recycle? What do you recycle? [GR]
- How do you cook? (gas, induction hob etc) [GR]
- There are not enough questions regarding the family/personal water consumption (laundry, dishwasher, flush, etc) [GR]
- Question about the usage of detergents and chemicals [GR]
- A question about packaging or also about other products like detergents or cosmetics [IT]
- A question about the temperature and hours of use of air conditioning in the summer since its use has increased in Italy recently [IT]
- A question about waste sorting [IT]
- A question about sharing in mobility [IT]
- Several participants mentioned CAR SHARING should be one of the questions or should be somehow incorporated into the mobility answers - what can we do? [SI]
- Several participants would add a question about the locally sourced or home- produced food [SI]
- larger purchases in past year... [SI]
- Questions such as "How many rooms in your house are air-conditioned?" or Heated? " and "How many hours are a day air-conditioning devices work" could be added. [TR]
- The number of electrical devices used and their energy efficiency could be asked (standby) [TR]
- There is not any question regarding consuming locally and season food , because such a consumption pattern may lower logistics-related emissions. If the participant prefers local products according to the answer, it could be reflected in its carbon footprint. [TR]
- The question "Where do you get your food from? online / market / local manufacturer etc." could be added. [TR]
- The question "Do you smoke and how often "could be added. [TR]
- The question "How much disposable products such as plastic do you use per day?" could be added [TR]

<p>How many people live in your household? (including you)</p>	<ul style="list-style-type: none"> • Including you, how many..." (2 people) [In the Italian translation <<(including you)>> is not present at the moment, we can add it] [IT] • Specifying the age of the family members can help understanding the impact of waste [IT]
<p>What is the living area of your home?</p>	<ul style="list-style-type: none"> • Heating other buildings should increase square meters? [EE] – not sure if pertaining to this question • Suggestion to insert the actual square meter you have. [DE] • One participant asked if they should include in the m2 also the area of a garden or of a garage, or only the inside of the house [IT] • 2 participants didn't understand that this question is needed to help the calculation [maybe the tip below is not clear??] and felt judged by the question as not ecologically virtuous, without the possibility of improvement in their habits regarding this. [IT] • One proposed to include the number of rooms [see also question 4] [IT] • The question generated indignation among the participants as they felt they had little agency to improve their carbon footprint when it comes to the size of their house. [PT] • Some people found the example helpful to identify the size of their house. Others thought that it was not adequate as their house followed an older scheme (more rooms and of smaller sizes). There was not a consensus regarding a viable alternative. [PT] • There was a request for a larger number of size options. [PT] • Questions around: the current address or permanent address, does the location (city, country side) effects the result, is the word "dom" the right word [SI]
<p>How many rooms does your home have?</p>	<ul style="list-style-type: none"> • This question could be asked together with options such as "how many rooms of your house do you use, how many do you heat in winter or cool during summer" [TR]
<ul style="list-style-type: none"> • What kind of electricity do you use? 	<ul style="list-style-type: none"> • Some of the participants felt that there was lack of information when choosing the electricity, they use. They would have needed more information on ecological electricity. [FI]

	<ul style="list-style-type: none"> • What is you produce part of the energy yourself? [FI] • Where do you count nuclear energy? [FI] • Suggestion to also ask for yearly electrcity consumption - this would avoid assumptions and be precise. [DE] • Add "I don't know" [IT] • Numerous participants said that there should be more options instead of the 2 present (100% renewables; ordinary) but for example a range of renewable % included. [This might create more confusion in other users - maybe we can modify the tipbelow to better explain that also ordinary contracts can have a mix including renewable sources] [IT] • OK (scrolling option should be more visible! - especially with questions with lots of answers) [SI] • Here it might be better to ask the amount of electricity consumption [TR]
<p>What kind of house do you live in?</p>	<ul style="list-style-type: none"> • Wording is misleading: Should be How do you live? Wie wohnst du? Mehrfamilienhaus not entirely clear. Wording of tool tip very technical [DE] • Semi-independent (Ημιανεξάρτητη κατοικία) should be explained [GR] • More options and maybe addition of floors in case of flats [GR] • One participant mentioned to include the number of rooms here [but we already asked the area in the m2 so we do not foreseen to accept this change] [IT] • One participant proposed to include elements such as termic characteristic (e.g. sides of the abitation that are free or in common with others, as in the corner or in the middle of a building). [IT] • Some proposed to ask also if the building is in cities (big/little) or in the countryside [this question was initially present, but we decided to eliminate it because the impacts are calculated also on electricity and mobility] [IT] • Options could be increased on this question (Many users have stated this) [TR]
<p>When was the house built?</p>	<ul style="list-style-type: none"> • Some participants raised concerns about equating the year of construction to the energy efficiency class of a building and as such the energy efficiency class should be asked directly. [PT]

	<ul style="list-style-type: none"> • The limited range of the answers provided was pointed out. [PT] • The question generated indignation among the participants as they felt they had little agency to improve their carbon footprint when it comes to the energy efficiency of their house (maybe there is an opportunity hidden here). [PT]
<p>Is your house insulated or has it been energetically refurbished?</p>	<ul style="list-style-type: none"> • Add options: "Partially (windows changed)" and "I dont know"
<p>Which of the following options better describe your house?</p>	<ul style="list-style-type: none"> • Answering options provoked a lot of discussions: The question and answer options were perceived as complicated. What is missing is houses that were build after 2010 and not refurbished, as well as new build ones which don't fulfil the new norms. [DE] • The options do not cover all the possibilitites or split in two questions [GR] • for example some have a new house with bad insulation. Also does the term insulation regard windows and doors or walls too? [GR] • What does the renovated heating system include? [GR] • Some had difficulties defining what's new or old. Maybe instead ask if the building was built before 1970, between 1970-2000, after 2000? [GR] • One observation was attached to this question, although it can be considered generic: the social and economic position of a person can give them the possibility to have more efficient means (house, electrical appliances, car...) which are in general more expensive than those of low quality and higher impact [IT]
<p>What is the primary heating method of your home?</p>	<ul style="list-style-type: none"> • Participants would have wanted to have images corresponding the options to have a clearer vision of what the different primary heating methods meant. Also, some pointed out that in the read more boxes there could have been said that district heating is the most common heating in Finland as an indication for the users. [FI] • How about if there are two equal heating forms? [FI] • Instead of this and the following question, as for actual consumption data (this is also done in other footprint calculators) which can be much more precise. [DE]

	<ul style="list-style-type: none"> • Have the ability to choose two options. Many households use two types of energy [GR] • Additional options like: coalwood, pellet, renewable sources [GR] • add "Bioethanol" [IT] • District heating (heat networks or teleheating) [we can add this, but it's actually really rare in Italy] [IT] • Participants found the question confusing. [PT] • Many don't use any type of heating system and didn't have an option available. (Topic raised by several participants) [PT] • Some use mixed systems and felt that their footprint was not properly addressed by asking for the possibility of multiple-choice answers. [PT] • It seems that explicit instruction "in case you have multiple heating methods, answer what is the primary method." is not visible enough as most participants didn't notice it. [PT] • Should we group some categories logically? Some results are not OK (why is electricity lower number than heat pump?) [SI]
<p>Where in Finland do you live?</p>	<ul style="list-style-type: none"> • More detailed options would be better [FI]
<p>If you are heating your house, what is the room temperature you keep your home in winter?</p>	<ul style="list-style-type: none"> • Change to room temperature. [DE] • several observations about the number of hours of use instead of the simple temperature (e.g. most of the day the house is empty and the heating is off) - average time of use in the week [IT] • Several observations about the temperature reported: use a range instead of a single number (e.g. 18-; 19-20; 21-22; 23+); avoid to attribute a qualitative value to the number (e.g. hot or cool) because each person has a different perception and it might create confusion [IT] • Some participants found the question confusing thinking that it referred to the temperature of the household without the use of heating systems. (Topic raised by several participants) [PT] • It was pointed out that the question does not consider the period that the house is heated (hours in the day and months in the year). [PT] • The answer options were considered insufficient [PT]

	<ul style="list-style-type: none"> • Feedback: should we keep the descriptive part or just number? What about summer – should question about cooling be included? [SI] • Hourly consumption options may be more indicative for this question. Options such as how many hours a day do you heat or cool your house? [TR]
What is the room temperature you keep your home in winter?	<ul style="list-style-type: none"> • Add option: I don't use heating [GR] • Cool to be changed to Low and Warm to High [GR]
What is the room temperature you keep your home in summer?	<ul style="list-style-type: none"> • Add option: I don't use cooling [GR] • Cool to be changed to Low and Warm to High [GR]
How much time per week do you spend having a shower?	<ul style="list-style-type: none"> • Difficult to determine accurate time (time in the shower – don't know, haven't measured). [EE] • Some of the participants felt that the question needed to have more options regarding the use of hot and cold water. [FI] • Could this be on daily level? [FI] • What if it is less than 30min, could it be max 30min as an option? [FI] • Shorter options are missing like 10 min or 20 min. [DE] • More options: less than 30, more than 120 [GR] • Is there any calculation for heating the water? Does it affect the outcome? [GR] specify that the question is intended to count the minutes with the water open • Ask if the water not used (e.g. waiting for the right temperature) is collected to be re-used [IT] • Several participants requested to change the range of the minutes (till 30 min; 30 to 60 min ...) [IT] • This may vary in different seasons (summer vs winter) [IT] • Participants considered that it would be easier to understand the question if it states or asks the average length of their average shower and how frequently they shower. (Topic raised by several participants) [PT] • Participants that take cold showers felt that their efforts were not being recognised. [PT] • Change answer categories: up to 30min, 30-60min, more than 60min [SI]

	<ul style="list-style-type: none"> • It may be beneficial to categorize cold vs hot water according to the season (summer/winter). [TR]
<p>How many times per week do you have a bath?</p>	<ul style="list-style-type: none"> • Options for having a bath once a months or once a year are missing. Additional information on energy usage would be helpful. [DE] • Between never and 1-2 times per week, an intermidiate monthly estimation might be added [IT] • Some participants have a problem understanding if this is only them personally or when they bathe the kids, too? As per general comments - it should be emphasize at the very beginning, that this is your personal/individual footprint and you answer for yourself only [SI]
<p>How many kilometres per week do you typically drive by car?</p>	<ul style="list-style-type: none"> • For some transport options, the definition of time was not understood. It seemed that there were very fundamental questions (you always or never drive).[EE] • * When driving a car - either driving myself or as a passenger. [EE] • What if there is a car in use only during summer or winter or one is using a shared car? [FI] • Annual level would be better [FI] • The weekly km options are too high. [FI] • Is driving during work included? (taxi drivers, bus drivers) [GR] • Calculation of km is hard to estimate [GR] • What does someone who drives 1-3 months a year choose? [GR] • Participants asked why only the car is enlisted instead ofotorbikes and motor-scooters (very frequently used in Italy, in particular for commuting) [IT] • Difficulty in giving an average per week, since week days and weekends are different and also every week might be quite different from another [IT] • Maybe better to modulate the questions in how many times you use the car per week and then for how many KMs each time. Others prefer a total per year (but not everybody agreed to that note) [IT] • Several requested to change the range of the KMs (from 0 to 100 is a big "jump", somenthing in the middle should be proposed; also from 100 to 400 is a very wide range) [IT] • The question generated indignation among the participants that were professional drivers (taxi drivers or

	<p>truckers) as they felt unjustly burdened by the footprint of their professional activity. [PT]</p> <ul style="list-style-type: none"> • It seems that the explicit instruction “Take into consideration all trips you travel by car, whether you are sitting in the passenger or driver’s seat.” is not visible enough as most participants didn’t notice it. (Topic raised by several participants) [PT] • The answer options were considered insufficient. Shorter ranges were requested. [PT] • Some participants considered that it would be easier to provide the distance travelled daily. [PT] • The ranges specified in the options of this question are quite wide. Ranges could be changed as 100 / 100-200 / 200-300 / 300-400 / 400-500 / 500 and above. [TR]
How many kilometres per week do you typically drive by car? (or as a passenger)	<ul style="list-style-type: none"> • Difficult to say if this is to include holidays. Holidays are such different numbers that it is challenging to break it down to a week. [DE]
How many kilometres per year do you typically drive by car?	<ul style="list-style-type: none"> • Different categories needed (this was also already communicated from our side): i don’t have a car, less than 5, 5-10000, 10-15000, 15-20000, more than 20. optionally to add a slider to use a more precise number. [SI]
What does your car run on?	<ul style="list-style-type: none"> • There was a wish to also capture the type of car (SUV or bus). Question if the production emissions of a car are directly included into this? [DE] • Hydrogen? [IT] • Some participants considered that the question didn’t consider enough parameters to give a proper estimate. [PT] • Some participants suggested the inclusion of more power sources suggestion hydrogen as an option [PT] • This question is not available in Turkish and the English test for Turkey. This question should be added to the test [TR]
How many people usually travel with you in the car?	<ul style="list-style-type: none"> • Difficulty in giving an average per week, since week days and weekends are different [IT] • The question generated indignation among the participants that were professional drivers (taxi drivers or truckers) as they felt unjustly burdened by the footprint of their professional activity. [PT]

	<ul style="list-style-type: none"> • Some participants pointed out that the answers were ordered from least impact to most impact and they would prefer to have them ordered from most impact to least. [PT] • Lots of feedback on "depends on the purpose of the ride - for work - alone, for family trip/vacation - more" - not sure how to incorporate this "purpose of the trip" [SI] • This question is not available in Turkish and the English test for Turkey. This question should be added to the test [TR]
<p>How many kilometres per week do you travel by public transport?</p>	<ul style="list-style-type: none"> • The km in public transportation is not clear [FI] • Km per month or per year would be better. [FI] • As this question is asked before the one on holidays, it is unclear if this should include holidays. [DE] • Calculation of km is hard to estimate [GR] • Same request here than with the car: change the range of the KMs (from 0 to 100 is a big "jump", something in the middle should be proposed; also from 100 to 400 is a very wide range) OR change to duration of travel, since it is not easy to understand the KMs with trains and metro [IT] • Some asked to change the average to monthly instead of weekly [IT] • An user felt that, with the questions posed in this order, the tool is giving the suggestion to use public transport instead of the car, not considering that the best option is to walk [IT] • An user felt that public transport is always considered better than private but they feel that this might not be correct in certain circumstances (e.g. an electric car that allows to take a route shorter than the one of the bus, often almost empty) [IT] • Some participants considered that the impact of different modes of public transportation should be considered. [PT] • Some participants considered that the travel frequency and travel distance would be a better estimate for this question. [PT] • Some participants pointed out that people might know how many days per week they use public transportation, but not the number of kilometres travelled. [PT] • The limited range of the answers provided was pointed out. [PT]

	<ul style="list-style-type: none"> • Lots of feedback: what about using "car sharing" (the cars are electric!) - where can this be included?. Seems like people didnt understand why we are asking it because they were defending that they use other options, and that they dont have the public transport options - they thought they should answer more... [SI]
<p>How many kilometres per week do you typically drive by motorcycle (or other two wheeler motor transport)?</p>	<ul style="list-style-type: none"> • Add option of electric bikes? [GR] • What does someone who drives 1-3 months a year choose? [GR]
<p>How many hours per year do you normally travel by plane?</p>	<ul style="list-style-type: none"> • In general use this is quite difficult [FI] • There should be longer time fram then a year [FI] • would less than once a year be an option? [FI] • Is flying during work included? (pilots, flight attendants) [GR] • Travel for business? Explanation at 'read more' section [GR] • Specify if the question is intended to count only the hours of effective flying, considering that the most impacting parts are the take-off and the landing [IT] • So maybe better to ask the number of flights per week/month/year [IT] • People flying for work (and not for personal choice) are penalized and the results might limit their comprehension of their own impact as a personal behavioral choice [IT] • The question generated indignation among the participants as they felt they lack alternatives. (Topic raised by several participants) [PT] • As the impact of these answers on the carbon footprint is high participants would like to input a value instead of selecting an imprecise rage that might raise their final value. [PT] • Questions about - privately or for work? (Could be clarified) Also should be added "last year" - or more precisely define the time period of reference [SI]
<p>Have you compensated for the emissions from your flights with voluntary</p>	<ul style="list-style-type: none"> • Add explanation on what compensation means [DE] • Lots of feedback: this doesnt contribute to lower footprint - it is just compensating not lowering the footprint. Greenwashing. Several people didnt understand the question at all. [SI]

carbon offset payments?	
How many return trips per year do you normally make by ferry?	<ul style="list-style-type: none"> • Difficulty in giving an average per year, since every year might be quite different from another in terms - for example - of holidays destination [IT] • It might be more useful to ask the duration instead of the number of times [IT] • Too specific and perhaps irrelevant. Remove? [SI]
How many hours per year do you normally travel (for vacations) by bus, train, or ferry?	<ul style="list-style-type: none"> • Feedback was that this feels like a strange combination of modes of transport. Especially ferry looked strange in here. [DE]
How many intercity trips per year do you normally make for touristic purposes by bus or train?	<ul style="list-style-type: none"> • In this question, the expression of "out of town/over-the-road" could be added instead of "touristic purposes" Some participants stated that they also travel by bus or train for business purposes [TR]
How many times a week do you walk or cycle to work or go to school (instead of driving or using public transport)?	<ul style="list-style-type: none"> • Some of the participants felt that the question and the calculation behind it was a bit uncertain because it had no consideration of the distances. It could be beneficial to clarify that the question is meant to collect information to give better suggestions. [FI] • I do remote work and go buy bys but not walking or cycling. [FI] • This does not consider long distances. [FI] • There are other reasons to travel than work or school. [FI] • Participants challenged that there was no question related to how many days a week a person would go into work. Also, not listing ebikes was criticised. [DE] • Option: more than 5 times [GR] • Here's not a question with the global KMs walked or cycled (similar to the other means of transport), to not limit the questions to work or school (but including free-time) [IT] • It might be useful also to include an average per year instead of week, since this might change significantly because of the season/weather [IT] • It might be more useful to ask the duration instead of the number of times [IT]

	<ul style="list-style-type: none"> • The option "never, I work from home / in smart working" is missing and several people requested it [but not sure if here is the right place, also considering that many asked to change the question avoiding to limit it to work/school] [IT] • This question might consider not only walking and cycling but also the use of kick-scooter (electric or manual) [IT] • The use of the comparison with the car (instead of driving....) was felt as wrong by participants who walks or cycles as a primary choice [IT] • Some participants suggested that other alternative means of transportation should be included (e.g., electric scooters). [PT] • The current formulation of the question, focusing on commuting to work and school, left some participants feeling excluded (unemployed and pensioners). [PT] • This question got by far most of the feedback and confusion: people didnt understand that it is instead of driving (although it is clear from the question, they just overlooked it...), didnt understand if recreational biking counts, too, what about combining means of transport. If this question is too confusing, perhaps to remove it? [SI]
<p>What describes best your eating habits?</p>	<ul style="list-style-type: none"> • Participants wanted more options on dietary choices since they felt like there wasn't an option for users who are not strictly vegan or vegetarian, but they try to eat mostly plant-based food. [FI] • Feedback was that people who eat very littel meat don't feel well reflected here (though CSCP things that is ok as it is). Answer option 1 with saying I am no vegetarian nor vegan is too complicated. It doesn't ask about regional and seasonal diets. [DE] • "Im not a vegan or vegeterian" is not clear. It should be changed to "I don't have any diary restrictions" [GR] • The option not vegetarian/not vegan seems too vague to several participants, who will add options like flexitarian or would like to see differences between people eating meat but looking at sustainability (like organic and km0) and people not caring at all (e.g. fast food) [IT] • Some underline that being vegetarian/vegan is not always sustainable [IT] • In general, in both cities, participants seem to read a sort of judgement in this question, so it might be useful to add a

	<p>tip explaining that this question is used to "open-up" different questions next and it is not immediately changing the calculation [IT]</p> <ul style="list-style-type: none"> • Participants could not identify with the first option "I'm not vegan or vegetarian", and it seems that definitions by exclusion are not well received. (Topic raised by several participants) [PT] • Some participants wanted to answer with diets that they are familiar with like the Mediterranean diet. (Topic raised by several participants) [PT] • Some participants were not familiar with the term vegan. [PT] • Second answer: remove ", but I eat fish." [SI] [likely different answer options than above]
<p>How many meals do you usually have per day?</p>	<ul style="list-style-type: none"> • How many full meals and snacks per week [GR]
<p>How much do you eat compared to the average person in your country at a meal?</p>	<ul style="list-style-type: none"> • It would be better if there would be kg/g/day or week selection. [FI] • This question also provoked discussion, as it can be seen as judgemental. It was also not clear to users who the people to compare yourself to were - generally, gender or people on my table. [DE] • The question seems too vague to several participants, who don't understand who "the average person" is... which model are we referring to? a sedentary life or a sporty one? [IT] • Maybe better to ask the number of meals? [IT] • to better understand the quantities, example pictures might help [IT] • Participants were resistant and had difficulty answering about an unknown average value. (Topic raised by several participants) [PT] • Lots of confusion: people find it too relative and not comparable. Perhaps add option "I dont know" [SI]
<p>How often do you have beef as part of your meal?</p>	<ul style="list-style-type: none"> • The limited range of the answers provided was pointed out. [PT] • Here it should be added the information about the size of the portion considered in the calculation [SI]

How many kg of beef you consume in one week?	<ul style="list-style-type: none"> This question is also visible when you say you are a vegetarian. The questions should also be about g as the answer. There is a g missing in the second answering option. There should be smaller options to choose from. [DE]
How often do you have beef or hard cheese as part of your meal?	<ul style="list-style-type: none"> Few of the participants felt that hard cheese and beef question should be separated since many felt like if they were vegetarians, they wouldn't eat beef. The difference between hard cheese and beef was, for many, an emotional experience of how they differentiate their diets. How about game eater? [FI] What is a hard cheese? [FI] Does this refer every time one eats or just lunch and dinner? [FI] Wording is strange. [FI]
How often do you have beef as part of your meal?	<ul style="list-style-type: none"> More options: once per 3 months [GR]
How often do you eat beef or lamb as part of your meal?	<ul style="list-style-type: none"> Maybe add another option between never and 1-2 per month [IT]
How many kg of meat you consume in one month?	<ul style="list-style-type: none"> An explanation of how meat consumption increases the carbon footprint might be added to the question [TR]
How often do you have pork, chicken, fish, eggs or soft cheese as part of your meal?	<ul style="list-style-type: none"> What is a soft cheese? [FI]
How often do you have pork, chicken or eggs as part of your meal?	<ul style="list-style-type: none"> Split the question to 3 questions for pork, chicken and eggs separately [GR] More options in answer, once per 3 months or rarely [GR]
How often do you have pork, chicken, fish as part of your meal?	<ul style="list-style-type: none"> Separate questions for each kind since emissions are different [we decided to group these elements because the difference of impact is not so high] [IT]
How often do you have pork, chicken,	<ul style="list-style-type: none"> The presence of different food types in the question makes it harder for the participants to estimate their consumption. [PT]

fish, or eggs as part of your meal?	<ul style="list-style-type: none"> • Use or: pork or chicken or fish or eggs. Add explanation why these are group together – again – the read more button was not visible – the explanatory text should be up, below the question [SI]
How often do you have chicken, fish, or eggs as part of your meal?	<ul style="list-style-type: none"> • The scope of the question is too general. This question could be asked separately for each food group [TR]
How often do you eat hard cheese as part of your meal?	<ul style="list-style-type: none"> • Unite with the other dairy products [but we separated them because of the different impact] [IT]
How often do you eat cheese in one week?	<ul style="list-style-type: none"> • The option of "I Never Consume" could be added to the answer to this question. [TR]
How often do you have dairy products (milk, sour milk, yoghurt, quark, cream, butter) as part of your meal?	<ul style="list-style-type: none"> • Butter can be a synonym for any bread topping. [FI] • Could there be clarified that we are talking about animal based dairy products (Finnish) [FI]
How many portions (cup/mug) of coffee, tea, or juice do you drink every day?	<ul style="list-style-type: none"> • Use or between the choices: coffee or tea or juice [SI]
How many portions (mug/glass) of coffee, tea, juice, beer or wine do you drink every day?	<ul style="list-style-type: none"> • In the questions there is "portion" and in answers it is "times"[FI] • Having all different types of drinks summarised here provoked a lot of discussions and unhappyness. Especially having tea in here, which leads to really high impacts if you dring 2 pots of herbal tea a day would probably lead to wrong results. [DE] • Split alcohol drinks with non alcohol [GR] • Add fizzy drinks [GR]
How many portions (cup/mug) of coffee or tea, do you drink every day?	<ul style="list-style-type: none"> • Why this question? The reason behind is not clear – a tool tip might be useful [IT] • Do coffee and tea have similar impact? [IT] • A cup/mug of coffee can be different (e.g. american coffee), use the mL [but the questionnaire should be tailored for italians] [IT]

	<ul style="list-style-type: none"> Participants would like to see other drinks included (vegetable drinks and juices). [PT]
<p>How many portions (pint/glass) of beer or wine do you drink every day?</p>	<ul style="list-style-type: none"> "1 portion every now and then" is a too vague answer [IT] It would be better to have a weekly average instead of daily (to include different habits on weekends) [IT] Some participants had difficulties understanding the scope of the question. Namely, if other alcoholic drinks should be considered and if alcohol consumed during the meals should be included. [PT] Some participants were confused by the "or" in the question, not knowing if they should add the number of beers and wine portions consumed. [PT] Re-define time frame and categories: per week [SI]
<p>How many glasses of beer, raki or wine do you drink per week?</p>	<ul style="list-style-type: none"> An explanation could be added regarding the impact of each drink on the carbon footprint. [TR]
<p>How many meals per week you eat in or as take away from restaurants, cafeterias, canteens, or have delivered to you?</p>	<ul style="list-style-type: none"> Participants found it troubling that takeaway is different since the packaging affects the carbon emissions. [FI] Add option: rarely or less than 3 per month [GR] It is not clear if canteens (at the workplace or school) should be included as restaurants and why (or maybe asked separately) > maybe to add in the tip? [IT] A difference between restaurants that propose km0 products should be added, according to a few participants [IT] It would be better to have a monthly average instead of weekly [IT] Re-define time frame and categories: per month [SI] The explanation given in this question is quite beneficial and this kind of explanation could be added to other question as well [TR] Could the answers to this question be adjusted as follows? None / 1-3 / 4-7 / 7 and above [TR]
<p>How often do you throw food away?</p>	<ul style="list-style-type: none"> Does this mean food in general or prepared food from the plate? [FI] Which kind of food? [IT] It's not clear for some participants what throw away means. Namely, if food subject to some sort of recovery or reutilization process (e.g., consumed by animals or used for composting) should be considered as thrown away. [PT]

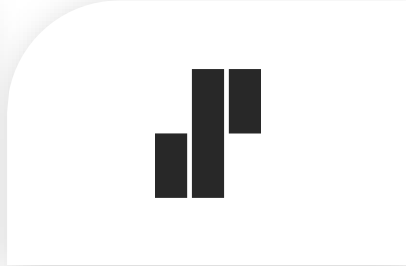
	<ul style="list-style-type: none"> • Some participants feel that the question should consider what food types are wasted. [PT] • Suggestions to have additional question on where the food waste is used - lets say for compost or pet food - then it would be subtracted from the waste impact [SI] • The question is not clear and understandable and could be asked in a different way or an explanation could be added. [TR]
<p>How would you describe your shopping habits?</p>	<ul style="list-style-type: none"> • This is challenging as there is variation on the basic needs as well [FI] • This provoked a number of different feedback points: Couldn't shopping habits related to household and spare time be separated, as one needs the first, and doesn't the latter? Participants questioned why there was no difference between doing online shopping (as the negative extreme) compared to buying stuff in the organic supermarket. Finally, the use of the term of an average German as reference is not easy to grasp for users [DE] • The question is very subjective, it is vague to place yourself among others [GR] • The question seems confusing and too generic to several participants (the average monthly costs per category and in total are not well understood or don't seem correct to them or seem missing other important categories) [IT] • Several participants require to add a reference to the difference between purchases on-line or locally (also second-hand might be online) [IT] • Do you read the labels? how much is this important for you? [IT] • Participants were not able to locate the additional information relating to the average consumption value when using the tool independently. [PT] • Participants could not connect to the average value presented as it was too high when compared to their personal experience. [PT] • Participants are not comfortable comparing themselves with the "average person" as the behaviour of the average person is not known. (Topic raised by several participants) [PT] • Some participants raise the question of what should be considered "essential". [PT]

	<ul style="list-style-type: none"> • Some participants considered that the consumption of sustainable brands should be taken into account. [PT] • The explanation of the average slovenian person shopping habit - read more - to move up and make it clearer and visible [SI] • In the options " same as other people" is not clear . (it might be better to say "same as people of the similar income level as me") [TR]
<p>How often do you buy second-hand clothes or refurbished electronics?</p>	<ul style="list-style-type: none"> • The group asked to separate the two categories, as buying second hand clothes is far more common than refurbished electronics. Also there was the question on why other goods (e.g. tools) were not included here. [DE] • Split clothes and electronics (many buy second hand clothes for instance, but not electronics) [GR] • Several participants suggest to add second hand objects in general and to divide cloths and electronics in the answers (some might buy clothes second hand but not electronic, and viceversa) [IT] • Options might be added regarding repairs or packaging [IT] • Options for clothes might be also locally produced (made in Italy) or about the tissue (organic, synthetic...) [IT] • "never" might be chosen both because I always buy new stuff or because I rarely buy clothes or electronics [IT] • Participants would like to see other second-hand goods included. [PT] • Some participants bought second-hand clothes but not second-hand electronic devices and vice-versa. As such, per their request, this question should be divided. (Topic raised by several participants) [PT] • Explanation to be added: You bought in the second hand shop or inherited (hand-downs) or share (own) with others [SI] • Besides "buying" , bartering or donating can be added to this question. [TR]
<p>Do you have a summer cottage?</p>	<ul style="list-style-type: none"> • Do you have to take it personally or in a family context - eg ("do you have a cottage?"). The cottage does not belong to him personally, but the family does. It could be more abstract ("is there a cottage in the family", "is there a car in the household?") [EE]

	<ul style="list-style-type: none"> • Main residence vs cottage. If you spend quite a lot of time (6 months) in the cottage, what to do? [EE] • Participants thought that there should be one option added: "I have a cottage, but I don't use it". [FI] • Some of the participants felt that there was uncertainty behind the calculations, and it was confusing which factors contributed to the emissions. This information was already in the tool tips, but participants didn't notice it. Tool tips button needs to be made more noticeable. [FI] • Instead of cottage, could it be leisure time apartment (loma-asunto)? [FI]
<p>How much money do you spend on pets every month?</p>	<ul style="list-style-type: none"> • The quality and quantity of pets would be more important than money spent [FI] • This wording encourages the pet owners to spend less on their pets and increase the risk of neglecting them. [FI] • This question was seen as an emotional trigger by the group, as pets are to many a member of the family. This is further supported by the fact that people didn't understand why the amount of money spent on pets translates into emissions. This could be fixed in the tool tips, but the emotional challenge to have pets here, and also in the suggested reduction activities remains. [DE] • Option less than 20, 20-50, 50-100, 100-200, more than 200 [GR] • Include strays [GR] • Several participants think that the amount of expenses should be changed, the minimum of 50 € seems too high for certain pets (birds or rabbits) and use ranges instead (current options are no pets - 50 - 100 - 200+... instead of no pets - less than 50 - from 50 to 100 etc.....) [IT] • Also, the total cost increases if you have more than 1 pet [IT] • The lower end of the answer range (€30) was considered too high and the higher end of the answer range (€200) was considered too low by participants. (Topic raised by several participants) [PT] • Participants found it odd that this set of answers was not in the range of values like in previous questions. [PT] • Some participants mentioned that they might have pets but not have expenses with them. [PT]

	<ul style="list-style-type: none"> • Some participants mentioned that some people might not have pets but have expenses with animals (e.g., feeding free-roaming animals). [PT] • Some participants considered that the answers should consider the type of pet (e.g., cat, dog, bird, fish). [PT] • Change the categories to: i dont have, up to 50, 50-100, 100-200, more than 200. or other. *some people found this question irrelevant or found other that could be more relevant (like larger purchases in past year...) [SI] • The answer options could also include "under 100 TRY". [TR]
<p>Do you recycle your waste (plastic, metal, glass, paper and cardboard)?</p>	<ul style="list-style-type: none"> • Options other than no/yes should be added to the assessment criteria. [TR]

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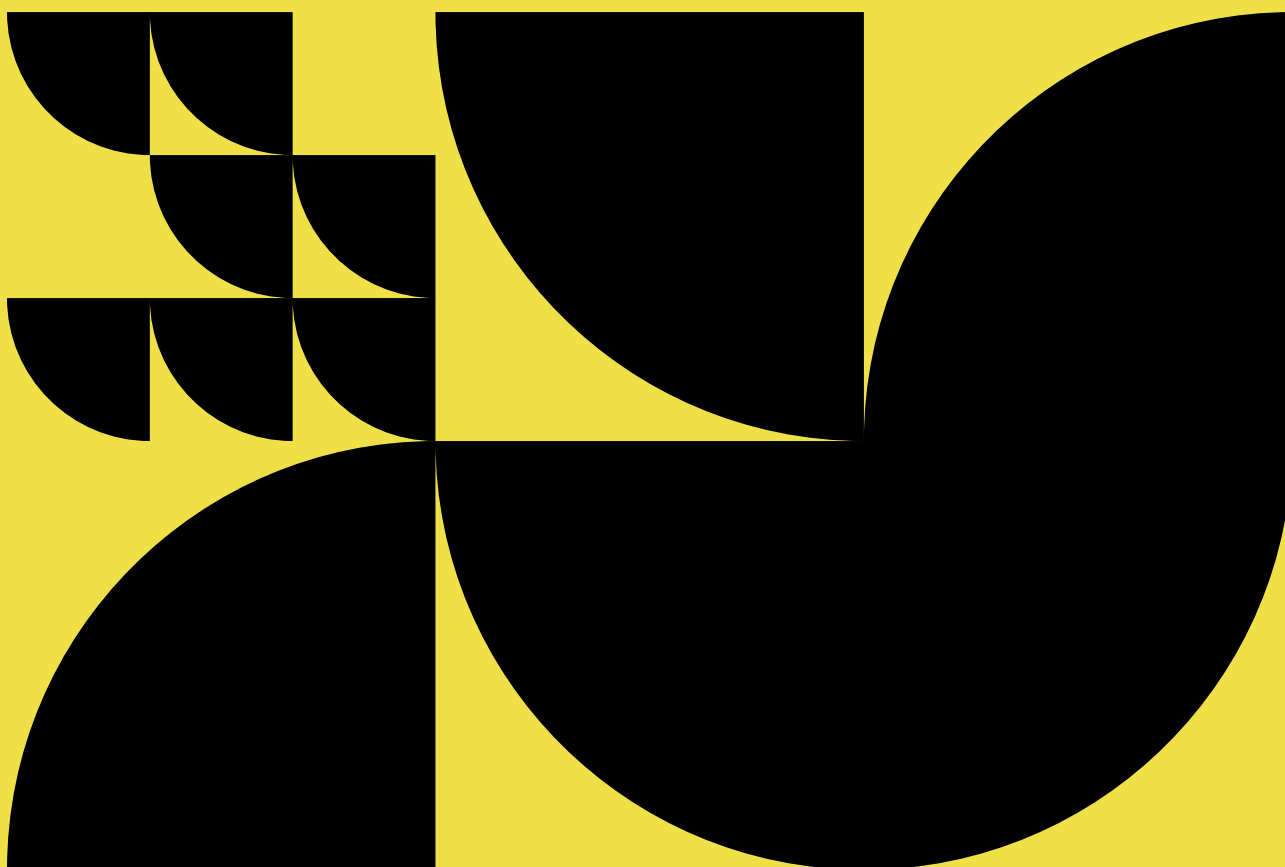
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