



# Plan for exploitation and sustainability

How to use PSLifestyle results to generate impact

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# 1. Introduction

In 2017, the Finnish Innovation Fund Sitra developed a digital tool for citizens, called the “Lifestyle Test”, to understand the impacts of their lifestyle and consumption habits. Following this, the European Union Horizon-2020 project ‘**Co-creating positive and sustainable lifestyle tool with and for European citizens**’ – PSLifestyle aims at enhancing the uptake of low-carbon lifestyles in line with the 1.5-degree target of the Paris Agreement. Furthermore, the project intends to **expand the user base and potential impact of the tool by adapting it to the context of eight European countries**: Estonia, Finland, Germany, Greece, Italy, Portugal, Slovenia, and Turkey. By engaging citizens with a digital tool in the form of a free web app, the project will **collect and analyze their consumption and climate impact data** to be used and exploited in research, as the basis of effective policies, civil society initiatives, sustainable business opportunities or research ideas to fill literature gaps. The project will build **a data-driven movement with and for the citizens to enable more sustainable lifestyles across Europe**. More information on the PSLifestyle project and the Lifestyle Test can be found respectively on the [project website](https://pslifestyle.eu/about/project)<sup>1</sup> and on the [Lifestyle Test section](https://pslifestyle.eu/the-lifestyletest)<sup>2</sup>.

The Lifestyle Test is accessible online as a free web app and allows people to understand the impact of their lifestyle by answering a set of simple questions, divided into four main lifestyle areas: housing, transport, food, and purchases. After taking the test, the users are presented with a **detailed picture of their footprint and a list of tailored lifestyle tips / actions with calculated emission reductions** a user could undertake to reduce their carbon footprint (Fig. 1). For example, if a carbon footprint is largely determined by frequent flights or long-distance car travel, it will be suggested to reduce travel and switch to transport modes with a lower carbon footprint, such as trains. The users can design their own plans for reducing lifestyle emissions over time by choosing among the suggested actions and track their progress by updating their plan. The localization of the test for the eight project countries, carried out during three rounds of citizen science labs (please see Box 1 for more information), required the collection and processing of local data and the contextualization of the questions of the footprint test, their corresponding answer options, as well as the list of actions to reflect local realities. This makes the results of the test relevant for the local level.

In addition to collecting data on the user lifestyle carbon footprint, and on what changes users are willing or not to undertake, the test also collects information on the motivations behind the user choices, as well as the underlying structural challenges and enablers for change (Fig. 2).

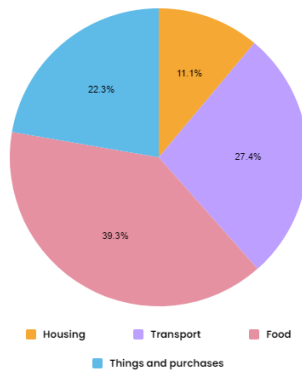
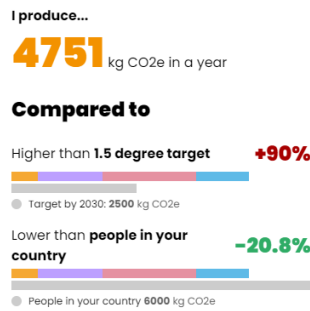
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<sup>1</sup> <https://pslifestyle.eu/about/project>

<sup>2</sup> <https://pslifestyle.eu/the-lifestyletest>

This information will be processed and made available to different stakeholders to identify opportunities and promote agendas at the business, policy, research, and civil society level for enabling 1.5-degree compatible lifestyles.

## I calculated my carbon footprint



What's your impact?  
 pslifestyle-app.net

PS Lifestyle

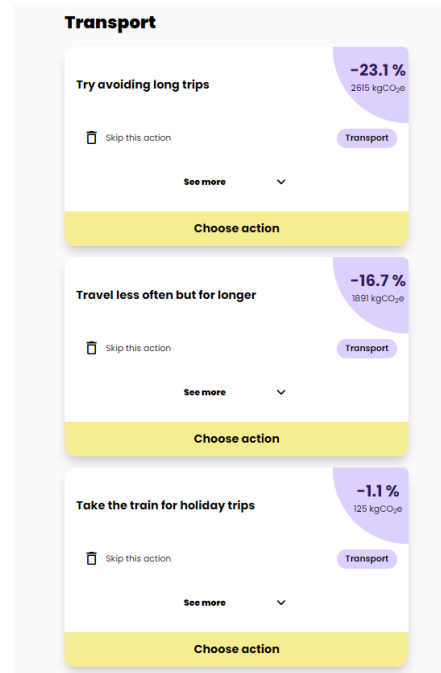


Figure 1. Carbon footprint results (left side) and a selection of tailored lifestyle changes for transport (right side) from the Lifestyle Test.

### Why did you decide to skip this action?

I don't know how

I don't have the support I need

It's too expensive

It's not available where I live

It's not popular where I live

It takes too much time and effort

I already do this

Cancel

Confirm

Figure 2. List of motivations options from the skip function.

This document describes the **plan for generating impact from the data and results coming from the use of the Lifestyle Test**. It also presents **steps for further expanding its user base** and geographical reach. It is structured in the following sections. Section 2 describes how the data will be collected, organized and stored; section 3 illustrates how data is processed to produce informative results for exploitation in a series of stakeholder workshops; section 4 elaborates on the stakeholders' workshops framework and its implementation; section 5 explores the strategy to scale up the project and the adaptation of the Lifestyle Test in other countries.

The report is produced in three iterative versions. Version 1 included an introduction and a description of the data generated and the further upscaling of the test. Version 2 introduces the strategy for the exploitation of the project results and the conceptualization of the workshop activities. Version 3 will include a more detailed exploitation plan, as well as a deep dive into the methodologies and implementation processes used for the stakeholder workshops. Versions 2 and 3 will also update the content of the previous version where appropriate.

## Box 1: The PSLifestyle Citizen Science Labs in a nutshell

### The PSLifestyle Citizen Science Labs (CSLs)

The PSLifestyle CSLs were a combination of **two participatory governance approaches**, namely, **living labs and citizen science**, that aimed at ensuring and **enabling citizens' involvement** in shaping our **socio-economic and political frameworks** through **co-creation and data collection / provision**. Such methodological approach helps to **increase the transparency, credibility and legitimacy of solutions** that might impact citizens' lives.

The PSLifestyle CSLs have brought together European citizens **to co-create and shape visions of a good life** within environmental boundaries as well as **design solutions for making those visions a reality**. Throughout six meetings together, together with members of their community / city, citizens participating in the CSLs had the opportunity to:

- **collect and provide information** through speaking and exchanging about challenges they face in their neighbourhoods/cities/regions and for more sustainable living throughout 4 areas such as food, transport, housing and general consumption;
- **co-design solutions and everyday actions** that hold potential for overcoming those challenges and increase our share of sustainable living;
- **exchange on barriers** that could inhibit the uptake of those solutions **as well as on opportunities** that could accelerate their wider roll out.

The **output of the exchanges** with the citizens **fed into the content and creation and localisation of the Lifestyle Test**. Besides co-defining and localising this content, the participants of the CSLs have been **engaged to co-create the functionalities of the PSL tool also**. This approach ensured the tool reflects the needs and expectations of its users and as such increase the chances of its broad and continuous usage.

The [CSLs Governance Framework](#) provides a more detailed overview of the project's citizen science labs.



## 2. The PSLifestyle Open Dataset and Dashboard

The PSLifestyle Open Dataset stores the data collected from the use of the Lifestyle Test. The test allows for calculating the user carbon footprint as well as collecting information on what changes users are willing to undertake to reduce their carbon footprint over time. The carbon footprint data is organized by four main consumption domains: housing, food, transport, and purchases. Data collected from the emission reduction plans allows, for example, to understand what actions are more frequently included in the plan and what are the least frequently selected. When preparing the plan, users can also indicate why they are not willing to implement certain actions, e.g., because too expensive, or because user lacks the know-how or needed skills (Fig. 2).

All **footprint and lifestyle change data can be differentiated by demographic and socio-economic variables**, i.e. gender, age, income and location. This information is collected through the Lifestyle Test by means of optional questions asked after the carbon footprint calculation. This information is important for **understanding how different footprint profiles characterize different societal groups, what actions these groups are more willing to adopt, and what barriers they are facing**. By collecting information on the user location, all the above can be mapped at a resolution which allows for targeted business opportunities, policies, or civil society initiatives. For example, the Open Dataset can be queried to analyze which are **the most frequent barriers that the residents of a city face when adopting an action** (e.g. switching to a vegan diet, or from private to public transport), or how income affects the user's willingness to adopt some actions instead of others. **The demographic data collected via the tool provides context to the carbon footprint data and is key to the exploitation of the results of the project.**

The PSLifestyle Open Dataset is saved to a Firestore database on Google Cloud Platform and will be freely accessible and downloadable as a .csv file. Access to the overall database is not open to the public and may be given only upon request to the project team. **Data collection, storage, use / sharing as well as deletion are handled in compliance with the applicable legal framework for personal data processing** (including the Charter of Fundamental Rights, GDPR, e-Privacy Directive-soon ePrivacy Regulation, and others) as outlined in the Data Management Plan of the project.

To facilitate access to the data collected via the test, the entire **dataset is processed and presented via a dashboard** implemented in Google Looker Studio. The dashboard is **structured into three main sections**, accessible by clicking on the respective section on the top left of the dashboard landing page. These sections are: **1. Key metrics; 2. Carbon footprint by domain; 3. Action Plans**. The dashboard also includes a glossary page which provides explanations of the variables presented.

The key metrics section includes the number of test takers, the total and average carbon footprint, and the average carbon footprint of housing, mobility, food, and purchases. It also includes tables which present these results by demographics such as age, gender, and residence.

Carbon Footprints, kgCO2e/person/year

Country	Test takers	Average total carbon footprint	Average housing carbon footprint	Average transport carbon footprint	Average food carbon footprint	Average purchases carbon footprint	Total carbon footprint
1. FI	59 195	7 115	1 185	3 250	1 473	1 208	421 177 550
2. TR	5 110	8 229	2 007	3 420	1 787	1 014	42 050 672
3. IT	3 385	7 982	1 889	4 104	1 143	845	27 017 769
4. SI	3 173	8 293	1 213	5 049	1 232	806	26 314 141
5. GR	2 469	10 164	2 643	4 948	1 501	1 072	25 094 953
6. EE	2 299	10 085	1 721	5 560	1 554	1 252	23 185 036
7. PT	1 651	9 469	1 537	4 958	1 852	1 122	15 632 835
8. DE	1 413	7 715	1 387	3 917	1 553	858	10 901 820

Figure 3. Key metrics in the PSLifestyle dashboard include the total number of test takers by country, the average carbon footprint of test takers for each consumption domain, and the total carbon footprint of all test takers by country.

Age	Test takers	Average total carbon footprint	Average housing carbon footprint	Average transport carbon footprint	Average food carbon footprint	Average purchases carbon footprint	Total carbon footprint
1. No age group	27 559	7 787	1 475	3 627	1 524	1 162	214 608 140
2. 31-50	22 268	7 109	1 156	3 467	1 406	1 081	158 306 561
3. 18-30	10 685	7 022	1 286	3 230	1 437	1 069	75 025 744
4. Over 50	9 099	8 131	1 721	3 857	1 392	1 163	73 985 014
5. Under 18	8 524	7 595	1 071	3 415	1 709	1 400	64 737 792

Figure 4. Key metrics in the PSLifestyle dashboard are organized by demographic and socio-economic variables, such as for example by age groups. Other variables included are gender, location, and income.

The carbon footprint by domain-section presents graphs showing the impact of different domains (food, housing, transport, and purchases) on the carbon footprint. As in the first section, the graphs present the results by different demographic factors (gender, age, location).

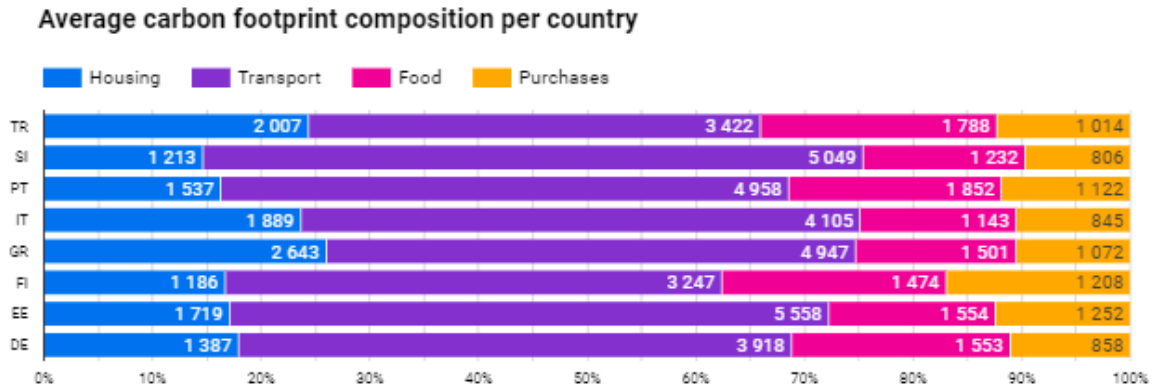


Figure 5. The PSLifestyle dashboard illustrates the share of contribution of different lifestyle domains on the average carbon footprint per country. Numbers in the bars represent the average carbon footprint (kgCO<sub>2</sub>e/person/year) by domain.

The Action plans-section includes data on the action that test takers choose in their plans as well as the action that test takers mark as completed when returning to the test. The section presents the number of test takers who made an action plan and returned to mark at least one action as completed. The section also lists each action and how many times they are included in the reduction plan and the number of times each action has been marked as completed. This information is also reported by grouping actions per their lifestyle domain, for example, how many times an action in the housing domain is included in the plan. The section also shows the percent share of how many plans include a certain action and how many times an included action has been marked as completed.

**Key metrics of action plans**

Country	Number of plans	Number of actions included in plans	Total carbon footprint reduction of the plans, kgCO <sub>2</sub> e/person/year	Number of users with completed action	Number of completed actions in plans	Total carbon footprint reduction of completed actions, kgCO <sub>2</sub> e/person/year
1. FI	4 264	64 829	11 904 887	214	3 229	412 612
2. IT	715	8 518	1 595 987	47	566	59 308
3. GR	182	1 438	477 966	16	65	25 433
4. SI	133	1 432	257 636	10	87	13 555
5. EE	126	1 554	360 967	7	68	9 329
6. PT	125	1 421	232 587	3	42	3 870
7. DE	114	1 579	299 021	12	130	20 337
8. TR	88	742	122 749	3	15	4 501

Figure 6. The PSLifestyle dashboard includes information on the action plans and completed actions.

All the sections in the dashboard can be explored by filtering the data by the demographic factors (country, age, gender, income, residence). One additional filter allows the dashboard user to select the data for a specific period. These filters are easy-to-use through a series of drop-down menus located at the top of the dashboard.

### 3. A strategy for the exploitation of PSLifestyle results

#### Why stakeholder engagement is key to the exploitation and sustainability

The UN Environment Programme defines a sustainable lifestyle as “a cluster of habits and patterns of behaviour embedded in a society and facilitated by institutions, norms and infrastructures that frame individual choice, in order to minimize the use of natural resources and generation of wastes, while supporting fairness and prosperity for all” (Akenji and Chen, 2016). **Focusing on lifestyles instead of just consumption implies considering non-economic aspects of our lives, as well as the role of factors outside the marketplace, and of policy, business, innovation, and other factors that enable or constrain adopting any consumption or lifestyle choice** (Akenji et al., 2021).

Engaging with stakeholders is an essential aspect of the PSLifestyle project, as governments, industry, civil society and academia are both potential end-users of the data collected via the Lifestyle Test and play a pivotal role for enabling sustainable lifestyle changes.

The strategy for the exploitation of PSLifestyle results implies **presenting and discussing with stakeholders the data collected with the Lifestyle Test** with the aim of:

1. **Defining actions and initiatives from different stakeholders for enabling change** based on measured impacts, consumer needs and preferences, challenges to lifestyle change, and other elements informed by the results. The involvement of actors such as governments and businesses is directed towards systemic changes in support of individual changes.
2. **Collecting feedback for improving the tool features for data collection and processing**, also exploring possibilities for integration with other databases, surveys, or calculators as well as for developing tailor-made applications for different stakeholder cases (e.g., a company that wants to use the tool with their employees, or a local administration wanting to adapt the tool to their context, etc.).

Such exchange with local stakeholders will take the form of **co-creation workshops implemented across the 8 project case countries**. Section 4 provides an overview of how the above-mentioned aims are further tailored and adapt for the multi-stakeholder sessions.

## Data processing and exploitation of results

The data collected via the Lifestyle Test, stored in the Open Database, and presented in the Dashboard, will be processed to further facilitate stakeholder engagement. Accordingly, **three analyses** will be conducted prior to the stakeholder workshops: 1) a **territorial mapping** of carbon footprint and lifestyle changes, 2) a **characterization of personas** by analyzing demographic profiles vis-à-vis carbon footprint and lifestyle choices, and 3) a **comparative analysis** of feasibility and climate mitigation impact of lifestyle changes. As explored in Section 2, the **results will include a wide range of data, such as total or country-based average carbon footprint, most preferred actions (most included in the user plan), most frequently completed actions, motivations behind users' choices and key barriers** to actions implementation. The outcomes of these analyses are meant to highlight key results for different stakeholders, translating these into formats that are suitable for informing actions towards systemic changes, such as the definition of policies, business opportunities, civil society initiatives, and research for enabling a transition to positive and sustainable lifestyles.

### i. Mapping carbon footprints and lifestyle changes

The Lifestyle Test provides data on the **users' carbon footprint across different domains and the mitigation potential of low-carbon lifestyles**. It also provides data on the challenges and barriers that users are facing when willing to implement lifestyle changes. Many of these challenges are faced at the local level, considering several consumption options, infrastructures, and needs that characterize different localities and communities. To be of use to stakeholders, **data and results from the test will be placed in their territorial contexts and mapped at a resolution appropriate for informing the design of effective actions**.

The first analysis for enhancing the exploitation of results and facilitating the engagement with stakeholders will be a **mapping of key results at the subnational scale** within the countries of the project. This analysis will visualize **inequalities in the territorial distribution of carbon footprints, adoption rates, and feasibility of lifestyle changes**. It will also visualize **where different barriers to lifestyle change are experienced**, allowing to better identify what actions are needed, and what actors are responsible, to their overcoming.

The mapping of PSLifestyle results also aims at filling a research and data gap, as most research on consumption behavior and carbon footprint are focused on the national level. There is evidence, however, **that these country-scale approaches hide the complexity that characterizes the effects of infrastructures, availability of consumption options, and other local factors on orienting consumption choices**. For example, some scientific literature indicates that urban areas provide smaller living spaces and larger availability of public transport, while, at the same time, people living in cities have a higher income and higher impacts in terms of food, goods consumption, and leisure travels than people living in more rural areas (Ivanova et al., 2017; Tukker et al., 2010; Wiedenhofer et al., 2013). However, other studies concluded that no difference in carbon footprint is observed between high- and low-densely populated cities, while other socio-economic factors mostly affect the footprint.

(Minx et al., 2013). Considering the amount of data that will be collected with the Lifestyle Test, this analysis will provide **insights into the subnational spatial variation of individuals' lifestyle carbon footprint** over a substantial part of Europe. This information is necessary to guide the local sustainable consumption policies as well as understanding how national climate policies will affect consumption footprints in different localities within a country.

The mapping analysis is made possible because in the test users are asked about their residence. In the current version of the test, the following question is asked: "Where do you live?" and users may select one of the following options: 1) Large metropolitan area (500.000 people or more), 2) Large city (200.000 to 500.000), 3) Medium size city (50.000 to 200.000), 4) Urban settlement (3000 to 20.000), 5) Rural area (3000 or less). In future developments, this question could be replaced or complemented by the acquisition of a postal code inserted by the user, increasing the resolution of mapping and the relevance of the results.

With the current version of the test, the data collected corresponds to one out of five categories of cities defined by population size. This allows for presenting data and calculating summary statistics for these categories within and across countries, and across other socio-demographic variables (gender, age, and income). All the socio-demographic questions in the Lifestyle Test are optional, thus this information is available only for a subset of the users.

## ii. Socio-ecological Personas

Numerous demographic and socio-economic factors correlate with the climate impact of our lifestyles. In general, **income is the most important driver of consumption carbon footprint, although its impact varies across lifestyle domains** (Ivanova et al., 2017). Other climate-impact-significant factors in the EU are household size, level of education, and expenditure patterns (Ivanova et al., 2017; Miehe et al., 2016; Minx et al., 2013).

The second analysis for enhancing the exploitation of results and facilitating the engagement with stakeholders will be the characterization of **socio-ecological personas**. Persona analysis **defines imaginary persons that represent segments of real people within a population**. It is a tool for businesses, policymakers, and academics to increase the understanding of their customers, users, or citizens. Personas share the same characteristics, whether they are behaviour, attitudes, values, or demographics (e.g. Jansen et al., 2021). This definition of personas is thus bounded by the kind of information collected via the test, and would not include characteristics such as values, aspirations, and others that are often addressed in such analysis. The aim of this assessment is to **explore which demographic and socio-economic profiles correlate with definite profiles of lifestyle carbon footprint, willingness, and barriers to adopt definite sets of lifestyle changes**. Once identified, these groups of personas are categorised and referred to for stakeholders to design strategies and solutions for enabling sustainable lifestyles.

In the PSLifestyle project, persona analysis will identify typical personas who have same demographics, carbon footprints and/or chosen low-carbon lifestyle actions. Persona analysis will give an understanding of which demographic characteristics are linked to a low lifestyle carbon footprint and to certain lifestyle actions. The analysis will also **explore if the same people choose the same kind of actions across the four consumption domains.**

The methods used for persona analysis vary from qualitative to statistical analysis such as hierarchical cluster analysis (Jansen et al., 2021). The data collected with the Lifestyle Test can be used for a data-based definition of personas within and across the countries of the project. From a perspective of carbon footprint and lifestyle change, different personas could be characterized based on their below or above- national average carbon footprint, number and type of lifestyle changes they are willing to adopt, rate of actual implementation of these changes, most common barriers they face, and various other aspects. These characteristics are suitable for performing a cluster analysis using a *k-median* algorithm, followed by a qualitative assessment and description of personas.

### iii. Analysis of adoption rates

Policy makers, researchers, businesses, and civil society organizations need **to get a sense on the feasibility of low-carbon lifestyle change options to design actions and initiatives** with potential to gather consensus and drive change at scale. Decision-makers could prioritize lifestyle changes which a substantial share of the population is willing to adopt and recognize the social tensions and barriers to changes which only a few people are willing to undertake. Lifestyle changes with high mitigation impact would need to be prioritized, understanding how feasible these are and finding ways to their effective implementation.

While research mostly focused on the barriers and motivators of consumption behaviour and lifestyle changes (Bülbül et al., 2023; Fløttum et al., 2021; Javaid et al., 2020; Wang et al., 2021), there is a **substantial gap in studies and data on feasibility and adoption rates** (de Boeir et al., 2016).

The third analysis for enhancing the exploitation of results and facilitating the engagement with stakeholders will be a **correlation study of feasibility and climate mitigation impact of different lifestyle changes**. This would allow to identify “low-hanging fruits”, i.e. lifestyle options of high feasibility, which are of interest for example to policymakers and business as solutions that can be upscaled in a short time frame and via highly-specific strategies. It would also allow to identify high- climate mitigation impact actions of low feasibility, signaling a lack in enabling factors and gaps in knowledge and data.

## 4. From data to action: engaging with stakeholders.

Collaboration with stakeholders is key to design strategies for enabling sustainable lifestyles, as well as for improving and disseminating the Lifestyle Test.

**Stakeholders from government, academia, industry, and civil society will be involved in the process through a series of workshops**, one per stakeholder group for each of the eight country partners, as well as engaging activities and events throughout the project.

Co-creation workshops will be organized in eight European countries -Estonia, Finland Germany, Greece, Turkey, Italy, Portugal, and Slovenia- with the **aim to collaboratively improve the PSLifestyle Test, identify the best ways for stakeholders to utilize project data and results, and design actionable plans to support lifestyle changes.**

One additional workshop will be organized at the European level, bringing together all stakeholder groups.

In-person sessions will be prioritized, although hybrid or full-online event options could be considered to facilitate the implementation where needed.

Every stakeholder group will focus on different lifestyles domains and will contribute to the creation of diverse outputs, from sustainable business models and civil society initiatives to research proposals and policy recommendations enhancing the uptake of low-carbon lifestyles options.

### **PSLifestyle for Governments**

The aim of the workshop is to bring together government representatives as well as policy experts and advisors and **share the learnings from the first deployment period of the Lifestyle Test** and thereby **discuss how policymakers can help facilitate and encourage people to adopt healthier and more sustainable lifestyles.** They will be introduced to the tool and get to see how it works and how its usage can help strengthen sustainable climate policies and monitoring.

Questions to be answered during the workshop include: what kind of data can PSLifestyle and the Lifestyle Test provide (including GDPR questions)? How can policy makers use that data and what other data would they need for effective policymaking?

These guiding questions and the PSLifestyle project will be placed in the bigger context of the EU Green Deal, the Paris Climate Agreement and the Agenda2030, as well as national policy agendas. Stakeholders will be involved in a conversation about how these goals can be achieved by using the Lifestyle Test, and how policymakers can best utilize the project results to enhance sustainable and positive lifestyles. To support these questions and discussions, the workshops will also address the barriers that PSLifestyle and similar approaches are facing.

**Behavioural change is difficult to achieve but policymakers can use such tools and apps to encourage individuals to opt for lifestyle choices.** They will learn about and discuss the communication that is needed and how best to



reach people and enable everyone, regardless of their background, in particular those for whom it is most difficult to make sustainable lifestyle choices. The project also has gathered a wide range of information on how the test and lifestyle choices can be tailored to the local context which provides further useful insights for policymakers and practitioners.

In total, there will be **eight government workshops – one per local partner**. The workshops will be held in the local language and be set up in a similar way to the Citizen Science Labs that took place until mid-2023. Overall coordination and guidance will come from ICLEI and EuroHealthNet but detailed planning and implementation processes will be implemented by the local partners. Material will be provided in English and (co-) developed by ICLEI and EuroHealthNet, while translations and adaptations will be carried out by the local partners.

The **primary target group of the workshops are local, regional or national government representatives and policy experts**. This will be decided together with the local partners. All members of the target group will work in climate change, sustainability or similar topics. Based on these criteria, local partners will develop a list of possible invitees and after consultation with ICLEI and EuroHealthNet, invite selected people.

The workshops **will take place on site and in person**. While the guiding documents are provided in English and support in organizing the workshops is provided by ICLEI and EuroHealthNet, the workshop language itself will be the local language and the documents provided will mainly be translated. The workshops will last around half a day, and each follows a similar structure and agenda co-developed by the local partners, ICLEI and EuroHealthNet. Relevant material and agenda will be shared with participants ahead of the sessions.

The results of the workshops will be collected into **1-page summary of the discussion and guidelines for governments**. These will be co-created by the local partners, ICLEI and EuroHealthNet.

**Preparations for the workshops will start early next year**, with an agreement on questions and formats between ICLEI, EuroHealthNet and local partners. Possible participants will be identified and invited to the workshops 1-2 months before the workshops are to take place. The timing of these workshops will be aligned with the other project workshops (see below) to ensure that the local partners have the capacity to implement all of them. Approximately, they will take place in the spring / early summer.

Actual implementation of the workshops will lie with the local partners, but task leaders will support them throughout, in particular for the preparatory phase. E.g., ICLEI & EuroHealthNet will provide guiding documents, co-develop the agenda, and support in identifying relevant stakeholders to be invited, whereas logistical details will mainly be managed by the local partners.

## **PSLifestyle for Industry**

The aim of these workshops is **to engage with businesses and entrepreneurs** and introduce them to the results of the PSLifestyle project, specifically the PSL Database which gives insight into the ability of citizens to engage

with sustainable lifestyles and the barriers they face. Businesses and entrepreneurs can **help citizens in adopting sustainable lifestyles through the provision of new products and/or services or by making existing sustainable products and services more attractive**, in this way supporting a wider adoption of sustainable lifestyles. Through the database, businesses and entrepreneurs would be able to gain insight on

- What actions are citizens already able to do,
- What they are not able to do, and why they are not able to perform certain actions filtered through socio-demographics and geographic filtering,
- The locally relevant carbon impact calculations for actions.

Further, engagement with businesses and entrepreneurs would also help the consortium partners understand what can be improved in the way the data is presented, bringing the opportunity for a larger uptake of the data in the wider business community. Finally, **opportunities would be made available for organizations to use the Lifestyle Test as a tool for employees' engagement on sustainability-related issues** and support companies in understanding how to help their own employees to live more sustainable lifestyles.

In total, **8 workshops with industry stakeholders would be held across the 8 countries (1 per country)** which would cover context and development of the tool, as well as the database and its geographical scope. Building this context is important for generating new ideas which may not be considered by the project partners. This will be followed by the introduction to the **project results, filtered through the lens of personas** (as described in the previous section). Personas can help industry stakeholders understand the diversity of lifestyles in their own geographical contexts and how more tailored solutions can be created to assist in a wider adoption of sustainable living. Finally, the workshops will introduce and co-create **case examples of how these personas can be utilised by the business community for designing new sustainable products and services** or better market existing solutions.

The **primary target is businesses dealing directly with consumers (B2C)** in the domains considered in this project (housing, transport and travel, food, and other consumption). The choice of consumption domains to be covered during the workshops with Industry will be taken at a later stage. In terms of the scale of businesses involved in the workshops, **attention would be paid in creating a good mix of businesses from SMEs and MSMEs to larger organisations, as well as small-scale local entrepreneurs**. However, the grouping will be tailored based on the location where the workshops will take place.

To ensure maximum impact of this activity, in-person sessions are preferred; however, local partners will receive support for online set-up in case of need. Project material and resources, such as the Lifestyle Test and the dashboard, will be provided to the participants ahead of the meetings to ensure active and fair participation.

**The total allocated time of the workshop would be split between two core parts.**

The **first part will focus on the database results and how they can support businesses and entrepreneurs in designing new products and services, or better reaching citizens with existing solutions**. Additionally, the session

will investigate the potential for developing, together with the participants, new business solutions and business models based on the project results and insights. **The second part will focus on gathering feedback on the database and how it can be better organized to meet participants' needs.** The design of a more detailed agenda and methods choice will follow in the next months.

To ensure participation, project partners will share with the stakeholders what gains and benefits they can expect out of these sessions.

The **output of the workshops would be two-fold.** On one hand, the sessions will deliver **the proposals of new products and services deployment**, which will be co-created during the sessions and further brought together in the *"PSLifestyle Business Opportunities for Companies"*, a publicly available document that will feed into the workshop organised at the European level. On the other hand, businesses will be asked to give **insights on the use of the dashboard to identify improvement opportunities** to be considered at a later stage.

The project team will focus on workshop design and material preparation during the first quarter of 2024. This step will be followed by the recruitment process and the workshops implementation to take place between the 3<sup>rd</sup> week of August 2024 and 1<sup>st</sup> week of September 2024. Learnings will be reported by the case country partners, and results will be processed and collected by the Finnish Innovation Fund Sitra in a final deliverable by the end of the same year.

### 4.3 PSLifestyle for Academia

The aim of these workshops is to engage with stakeholders from Academia (researchers, universities and research institutes), to present the project results and **identify research gaps to be further explored.** In this context, the project identifies a twofold goal for the academia workshops. On one hand, the exchange will highlight the **contribution that the project learnings can make to Academia.** In this regard, results will be shared as raw and processed data through Datasets and Dashboards, which give insight into the ability and willingness of citizens to engage with sustainable lifestyles, and into barriers and enablers to change. These insights can support Academia in **identifying research gaps and develop further investigation into systemic transformations** needed for a transition to sustainable lifestyles.

This latter point brings to the second aim of these workshops: **determine how Academia stakeholders can enable sustainable lifestyles, through feedback for tool improvement on data collection, processing, and use.**

During the workshops, participants will **be introduced to the project, its Lifestyle Test and Open Dataset, and the results generated** so far. Data gathered through the tool will be processed ahead of the workshops and presented based on three types of analysis: **territorial mapping, personas, and feasibility of lifestyle changes.** The results will include key actions selected and/or skipped by users, motivations and limitations and other behavioural elements.

This will facilitate the stakeholder engagement and the identification of strategies for a successful exploitation of the results within the Academia. The exchange will focus on two aspects: the **creation of new research ideas to bridge existing research gaps**, and the collection of **inputs on the type and format of data available to improve data collection features in the tool and new potential sets of analyses.** An additional exchange point could be

proposed towards the end of the session regarding potential opportunities for further collaborations on the Lifestyle Test dissemination within Academia and additional support needed to enhance sustainable lifestyles. Among the stakeholders involved in this round of workshops **are networks of researchers, universities, and research institutes** in the eight project case countries. To stimulate multi- and inter-disciplinary approaches, it is advisable to recruit a **balanced group of experts in the four consumption domains** considered in PSLifestyle: food, housing, transport, and purchases. Ideally, **different areas of expertise would be represented in such groups**, including sustainability indicators, consumption behavior, sustainable production and consumption, policy research, and others. A **heterogeneous mix of post-graduate students, early-career researchers, and senior professors is also suggested** to bring as many different perspectives as possible to the table. Participants coordinating large research networks, either at the national or international level, could play a key role for dissemination and use of the Lifestyle Test and the data, and should then be identified as a priority.

To facilitate the exchange during the workshops, **stakeholders will be provided with background material ahead of the sessions, including access to the Lifestyle Test and open datasets and dashboards**. This will allow researchers and other stakeholders to familiarise with the tool and the available data before joining the event. During these sessions, participants will be **divided into two groups, one working on new research ideas** to improve the data usage and bridge data gaps, **and the other focusing on tool improvements**, in particular on adding new potential functions or tailoring the Lifestyle Test to specific scopes and uses.

The activities of the first group will focus on **different possibilities for data use that expand on the existing project data and results**, including the integration of other datasets or approaches for complementing PSLifestyle. This approach aims at **promoting solutions to cover research gaps and produce new ideas**, while avoiding research proposals primarily focused on the examination and presentation of current data.

Facilitation techniques, agenda and materials for the Academia workshops will be designed and finalized in the upcoming months and shared with the project partners. To facilitate the reporting process, partners will be provided with transcription templates and guidelines ahead of the sessions.

The workshops will produce a **project exploitation plan for Academia and a collection of new research ideas and papers** to be submitted for a special issue in a chosen scientific journal. The PSLifestyle exploitation plan will **outline major research and knowledge gaps** to be addressed and **potential pathways for the implementation of solutions across the 8 project case countries**. The outputs will also present ideas for new valuable datasets to be used by Academia stakeholders.

The project team will focus on workshop design and material preparation during the first quarter of 2024. This step will be followed by the recruitment process and the workshops implementation to take place before July 2024. Learnings will be reported by the case country partners, and results will be processed and collected by Hot or Cool Institute in a final deliverable by the end of the same year.

#### 4.4 PSLifestyle for Civil Society

Narrowing down to Civil Society Organisations (CSOs), the aim of the PSLifestyle workshops will be to **increase the awareness of professionals and leaders within the CSOs sector**, across the 8 project countries, about **the project and the Lifestyle Test**, including here the **results that have been generated** during the first deployment period of the tool (September 2023 – May 2024). **CSOs** are quite an **important stakeholder and in a unique role / position** when it comes to advancing the topic of sustainable lifestyles. They are **positioned in-between consumers and other key decision makers** and in such a setting, CSOs can **effectively engage and provide input to both ends**, whilst **identifying synergies and trade-offs as well as balancing the scale of interests**. We will aim to engage with **professionals and CSOs representatives from the social, environmental and development fields**, without excluding the possibility of working with participants from other fields as well. In addition, we will aim to engage with **organizers of community and other citizen initiatives** that are operating in the field of sustainability.

In this context, within these workshops, the project will aim to **exchange with CSOs on the results' practical meaning** (Lifestyle Test and consumer / behavioral insights) and how these could be utilized in their work to **improve their operational processes** as well as **make them more effective** and the **solutions they put forward**. Besides the more content aims, in these workshops together with CSOs representatives we will **talk about and identify opportunities** for **further improvement of the Lifestyle Test**, specifically with regards to **data functions and features**, as a means of increasing their utilization of the tool. Finally, circulating back to their unique position, **opportunities for collaboration and dissemination of the Lifestyle Test** will be sought and identified.

The goals / aims outlined in the previous paragraph will, to a large extent, define and frame the scope of the workshops with the CSOs representatives. Nonetheless, conscious that **discussing the vast insights** from all four PSLifestyle / Lifestyle Test living areas (housing, transport, food, general consumption) within the relatively short time of the workshops could be difficult, the project team has decided to **focus on certain key areas** which we believe **CSOs are operating largely**, namely, **food and general consumption**. The selection has been influenced by the partners' years-long practical experiences in the field. Nonetheless, this is not exhaustive, and we do not claim rigorous assessment of the on-the-ground situation.

Within the highlighted living areas, the insights / results that will be provided to participants (in the format highlighted in Section 3) will vary and revolve for example around the a). **main hotspot challenges within food and general consumption**, b). **key actions** most often **selected by consumers** groups, c). an overview of the **opportunities / barriers** that users have highlighted as well as d). the **use of engagement features** such as sharing the results or plans on social media channels. This for the purpose of giving CSOs an overview of the main **sweet / pain points for consumers** as well as **areas where change is perceived difficult** as a means for discussing with them on their roles and the various solutions that could be introduced to change the playing field.

At the end of the workshops, the CSO representatives will be **informed and made aware** about the PSLifestyle project as well as their Lifestyle Test, including, hopefully, they would have **showcased their commitment for collaboration and partnership**. In addition, a result of these workshops would be an **increased understanding of how the data from the Lifestyle Test could be utilized** and **how could the Lifestyle Test with regards to data**

**functions / features be further improved to allow for such data utilization.** Finally, and most importantly, ideally the workshop would lead to CSOs being **equipped with information they could leverage** and **capitalize upon** when **building strategies and initiatives** for **consumer engagement** and **advancing / mainstreaming sustainable lifestyles** and the **identification** of some such **practical pathways** and **actionable next steps**, already within the workshops.

With regards to format, both **in-person and online workshops** will be considered, depending on the implementing partners' resources as well as judgement on which option would be the best for maximized participation. **8 workshops** will be implemented in the 8 project countries by the respective on the ground PSLifestyle partners. The **CSCP will be coordinating this overarching process**, while **relying on partners' expert feedback** on what would work best in practice. In this context, **background and preparatory materials** as well as **workshop guidelines** will be prepared that would include what would need to happen **before, during and after the workshops** i.e., recruitment of participants, preparation for and implementation of the workshops and collection of results and reporting.

For the **implementation of this process**, the project team foresees a **7-months process** from April when the initial preparatory steps will kick off to September when the workshops are foreseen to take place and end of October by when the results have been analyzed as well as the respective report has been prepared.

try to work with this timeline.

#### **4.5 PSLifestyle application EU-level deployment**

The learnings from the four workshops series will be channeled into an EU level workshop in the end. This EU-level workshop will allow for an evaluation of the feasibility of the PSLifestyle application to cover all EU member states. In addition to that, the EU-level workshop will allow for opening up a dialogue across EU stakeholders, which is essential for a systemic and synergic implementation of solutions. The EU-level workshop will take place in the fall of 2024, either in Brussels or at a European conference that brings together a wide range of the key actors relevant for PSLifestyle.

#### **4.6 PSLifestyle Learnings Cookbook**

The **PSL Learnings Cookbook** will bring together the project's overall findings and recommendations, as well as lessons learnt and best practices, drawing from outcomes across the project and in particular from the stakeholder workshops. It will aim to serve as a guide for users wishing to implement the PSL tool in new contexts not currently covered by the project, helping to exploit and scale up the lifestyle test. The **PSL Learnings Cookbook** will be available as a downloadable report, as well as in an interactive and easy to use e-guide format. EuroHealthNet will lead on developing the cookbook, with support from ICLEI, CSCP and HoC. The final version is due in December 2024.

## 5. Scaling-up PSLifestyle

### The European version of the Lifestyle Test tool

A **European-level version of the Lifestyle Test** is under development, in addition to the eight country versions. This version is for users who live in Europe but outside of the case countries. The European version of the test is based on average European data (excluding data relative to the eight countries of the project). **The list of actions proposed to the users, as well as their emission reduction impacts, are representative of the average European context.** The accuracy of the data used to build the European version of the tool varies depending on the consumption domain considered. For food and mobility, the amounts of CO<sub>2</sub> equivalent embodied in the consumption of a food item or the use of different transport modes (i.e. the carbon intensity) do not vary much across Europe. On the other hand, the carbon intensity of electricity consumption varies over ten-fold between European countries, being highest in Estonia and Poland and lowest in Sweden, Luxembourg, and Finland (EEA, 2023)<sup>3</sup>. Heating demand also varies substantially between countries depending on the climate and building conditions.

The data generated via the use of the European version of the Lifestyle Test is of relevance for stakeholders operating at the European level. This version allows for **engaging with citizens outside of the project countries**, which will otherwise not have the opportunity to take the test. **The data collected from users of this version will be stored in the PSLifestyle Open Dataset and included in the Dashboard**, expanding the potential impact of the project and the scope for the exploitation of data and results.

### Applications of the Lifestyle Test in other countries

Apart from the European version of the test and the eight countries already represented, efforts are being made by the project coordinator Sitra to **engage with organisations outside of the Horizon consortium with the aim of implementing the test in additional countries** and increase the reach of the project. This will be carried out **through partnerships with local organizations** that have a deeper understanding of the local or regional context and are in a better position than project partners for marketing the test locally.

Until now, the recruitment of other countries has relied on presenting the project at international conferences, which has led to organizations from other countries approaching Sitra for information on how the test could be implemented in their local context. As more partner organizations will join, **the “community of practice”**

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<sup>3</sup> Greenhouse gas emission intensity of electricity generation in Europe (Available from: - Accessed 13/09/2023)



**methodology would be continuously followed to ensure that new organizations get to learn from the country cases** where the test is already implemented, with a continuous exchange of knowledge and ideas. The support provided to the new organizations from the country partners of the consortium would be voluntary, hence, no partner would be obliged to extend support and, before a new organization is added to the shared platforms of the project (Microsoft Teams, Miro, etc.), consent would be asked to all the consortium partners.

New organizations benefiting from the content developed in the PSLifestyle project would not be provided with any funding from the consortium partners. Obtaining funding for the localization and marketing of the test would be their own responsibility. In terms of implementation, the preference of the consortium partners is that new organizations would be added as new countries on the Lifestyle Test website. Hosting all existing and additional versions of the test on the same website allows for generating a larger database, whilst providing more regional diversity, besides being one of the major selling points for new organizations to join.

Once the test is formally released in the 8 partner countries, along with the European version, Sitra plans to engage with organizations outside of the consortium by **actively using connections with pre-existing networks** such as Consumers International and the European Consumer Organization (BEUC). Apart from these formal networks, Sitra has also identified a host of organizations which may not be part of these networks but could be engaged with to bring the test to new countries by creating local partnerships.

Organizations joining the consortium are provided with the technical knowledge developed in the project, such as the means to calculate consumption-based carbon emissions through a template excel sheet which allows for replicating the methodology used for the cases of country partners. However, new organizations would be responsible for data collection, project management, developing the content to be included in the test website, producing marketing material, and for any changes to the structure of the test (including new lifestyle options and other changes to the calculation template) they deem necessary to their case. Organizations are also required to provide technical expertise including one or more carbon emission analysts and marketing specialists.

Once new organizations are ready with their content for the localization of the test, our tech partner Solita would create an interface to transfer the data from the excel template to the online version of the test. Any needed text in their local language to be used in the test would also have to be provided via this interface by the new organizations.

The process for new countries to build a lifestyle test will be detailed in the **PSL Learnings Cookbook** and serve as a lasting legacy of the project.



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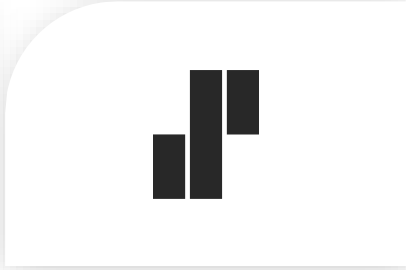
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## Project partners



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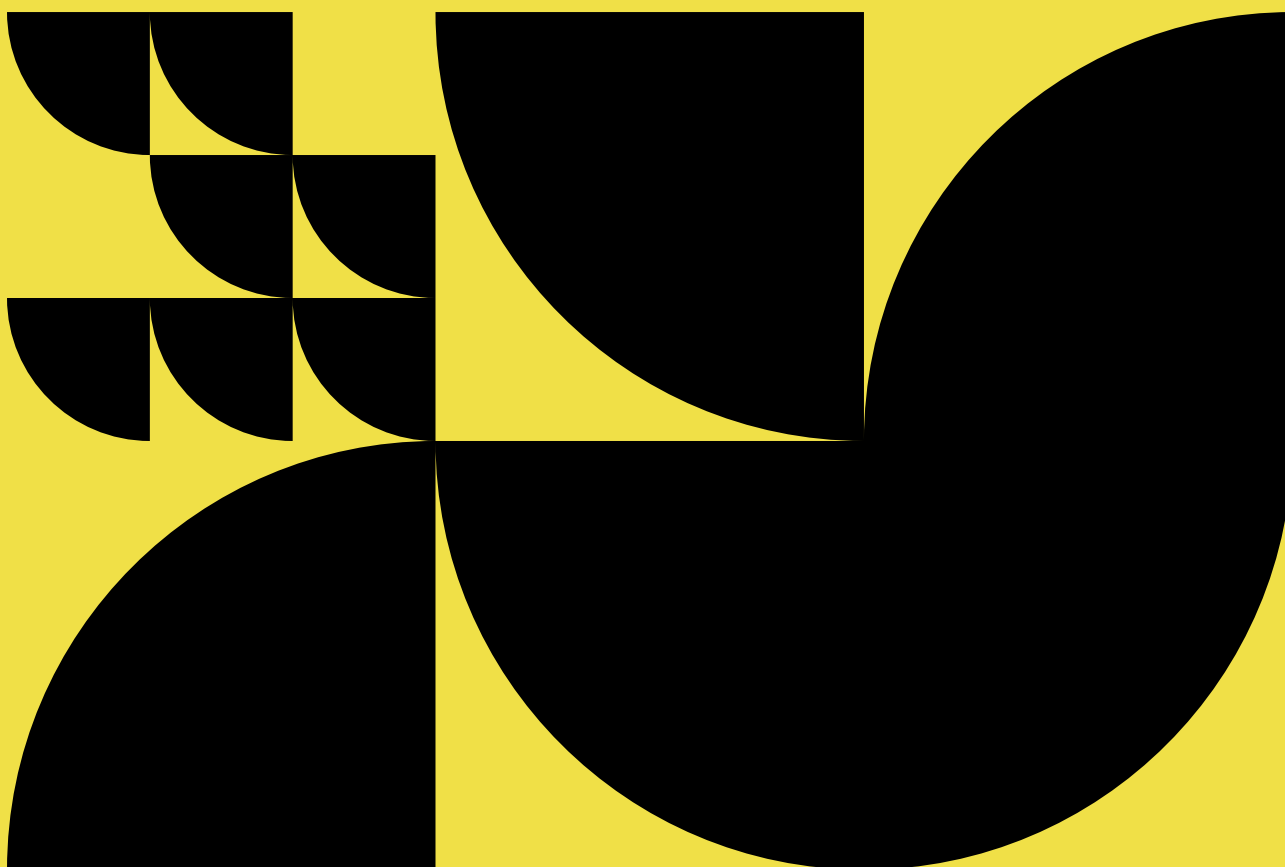
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